

VOLUME I
PERFORMANCE FLIGHT TESTING

**APPENDIX C-1
PITOT-STATIC POSITION
ERROR RELATIONS**

DTIC QUALITY INSPECTED 4

19970116 077

USAF TEST PILOT SCHOOL
EDWARDS AFB, CA

DISTRIBUTION STATEMENT A

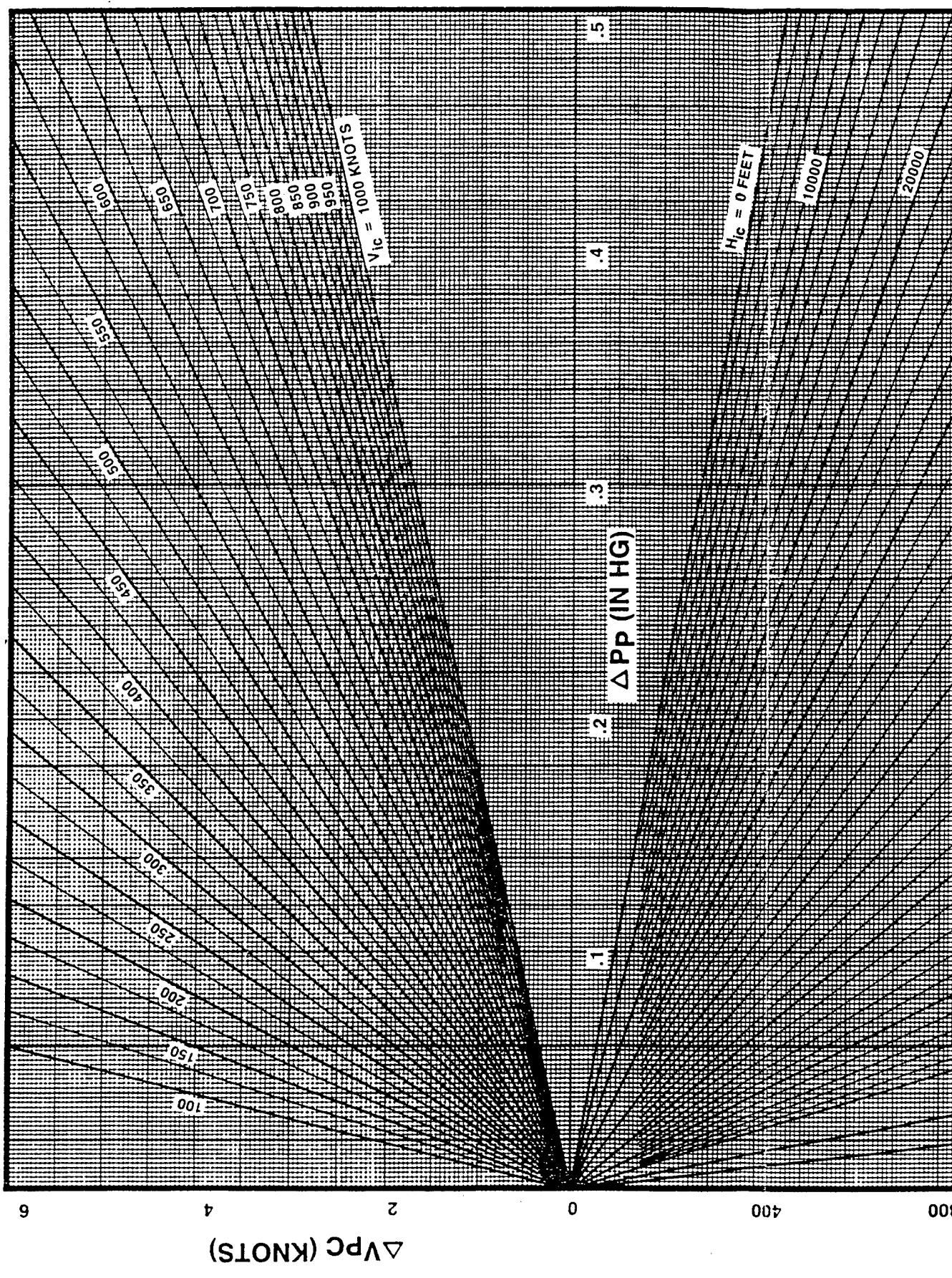
Approved for public release;
Distribution Unlimited

APPENDIX C-1

PITOT-STATIC POSITION ERROR RELATIONS

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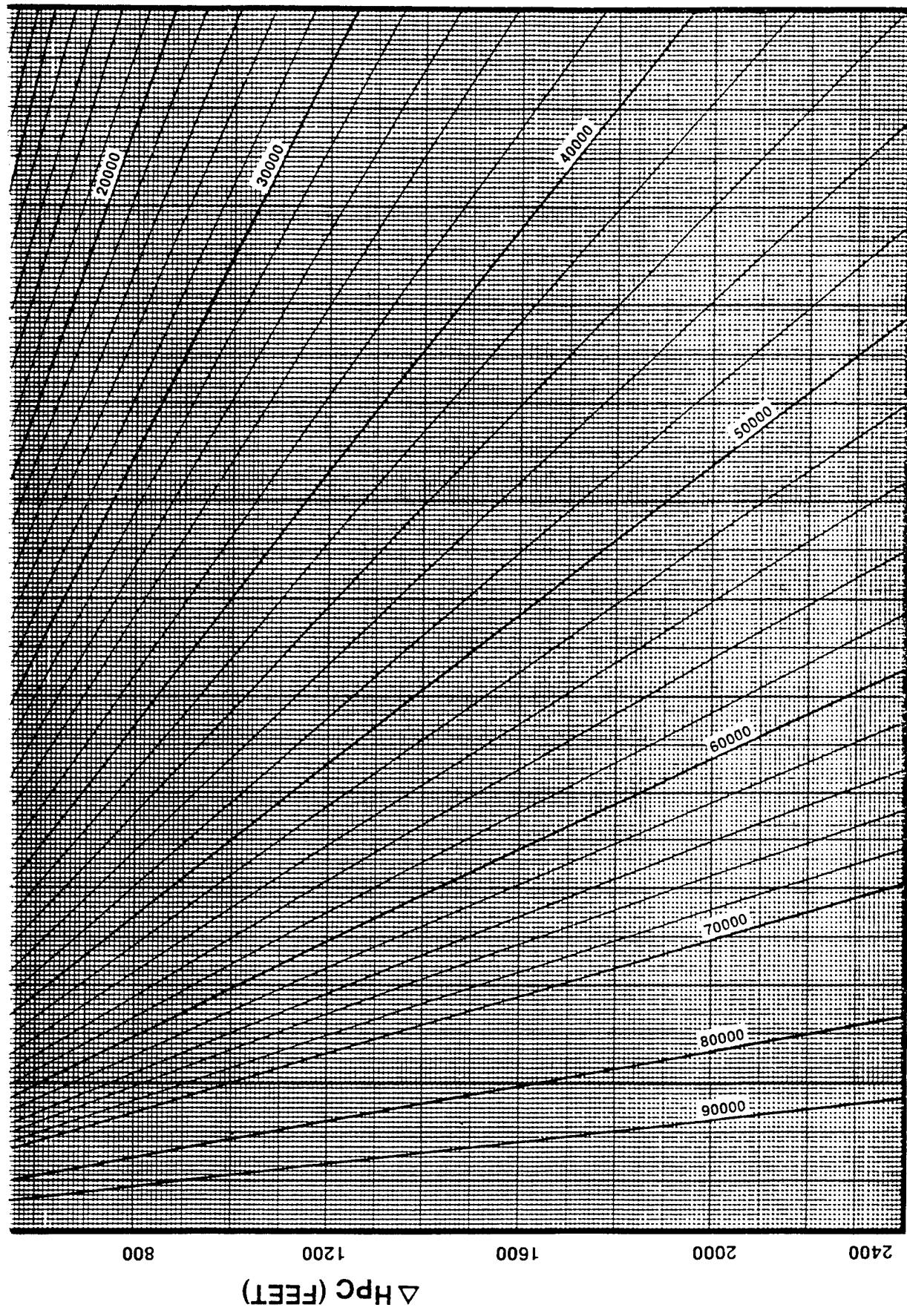
APRIL 1967



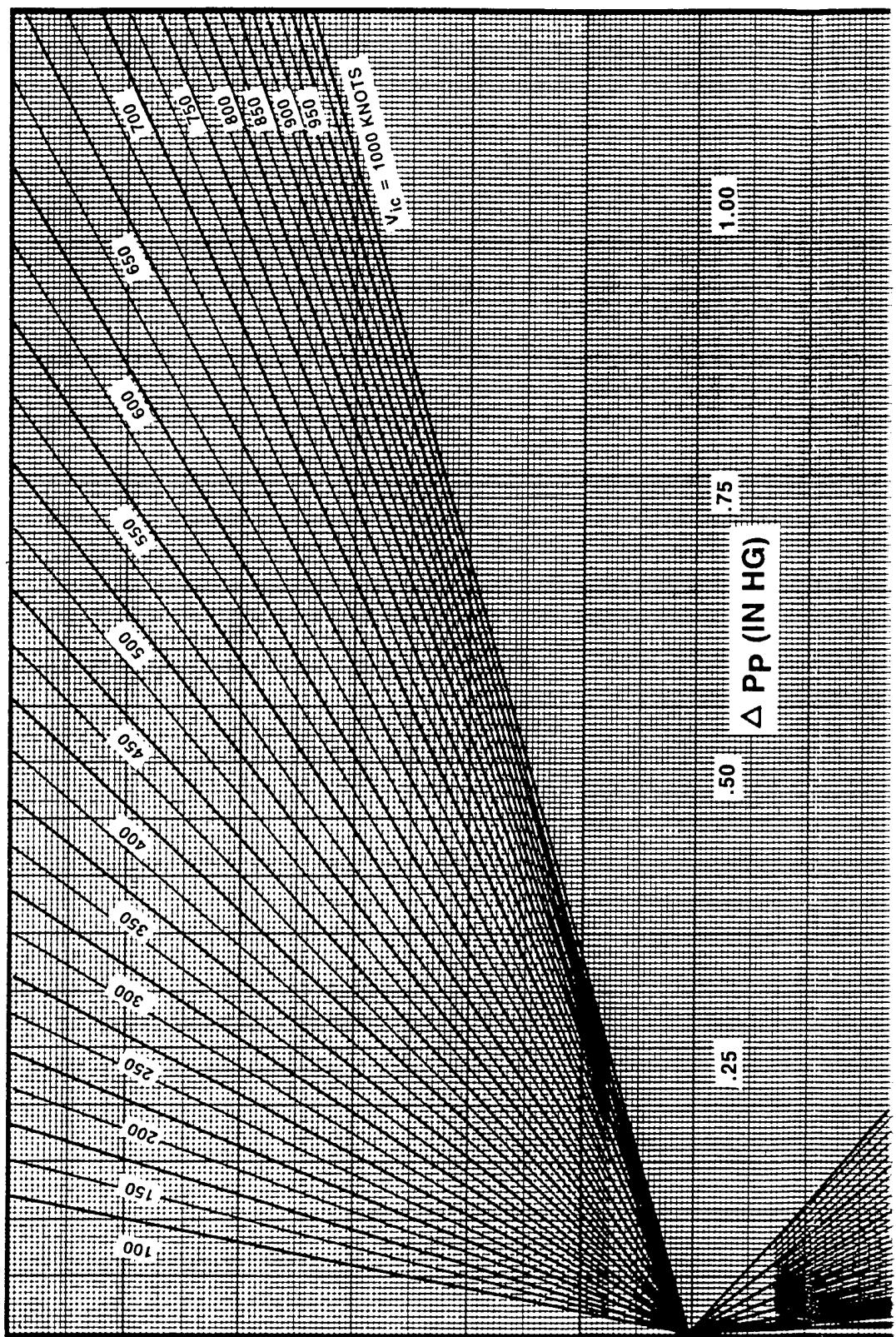
2

C-1-1

Δv_{PC} , ΔH_{PC} vs ΔP_P



1



12

8

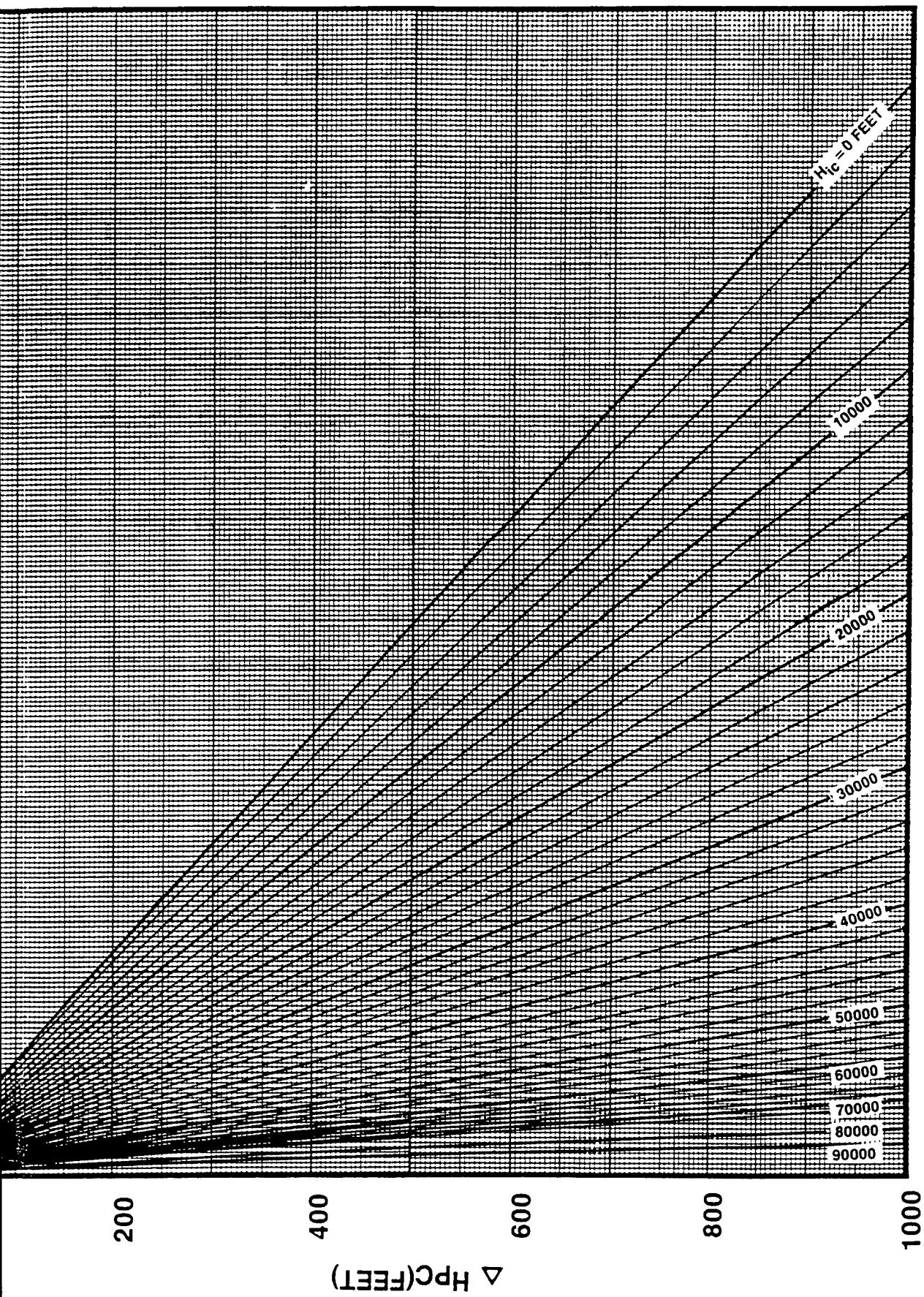
4

0

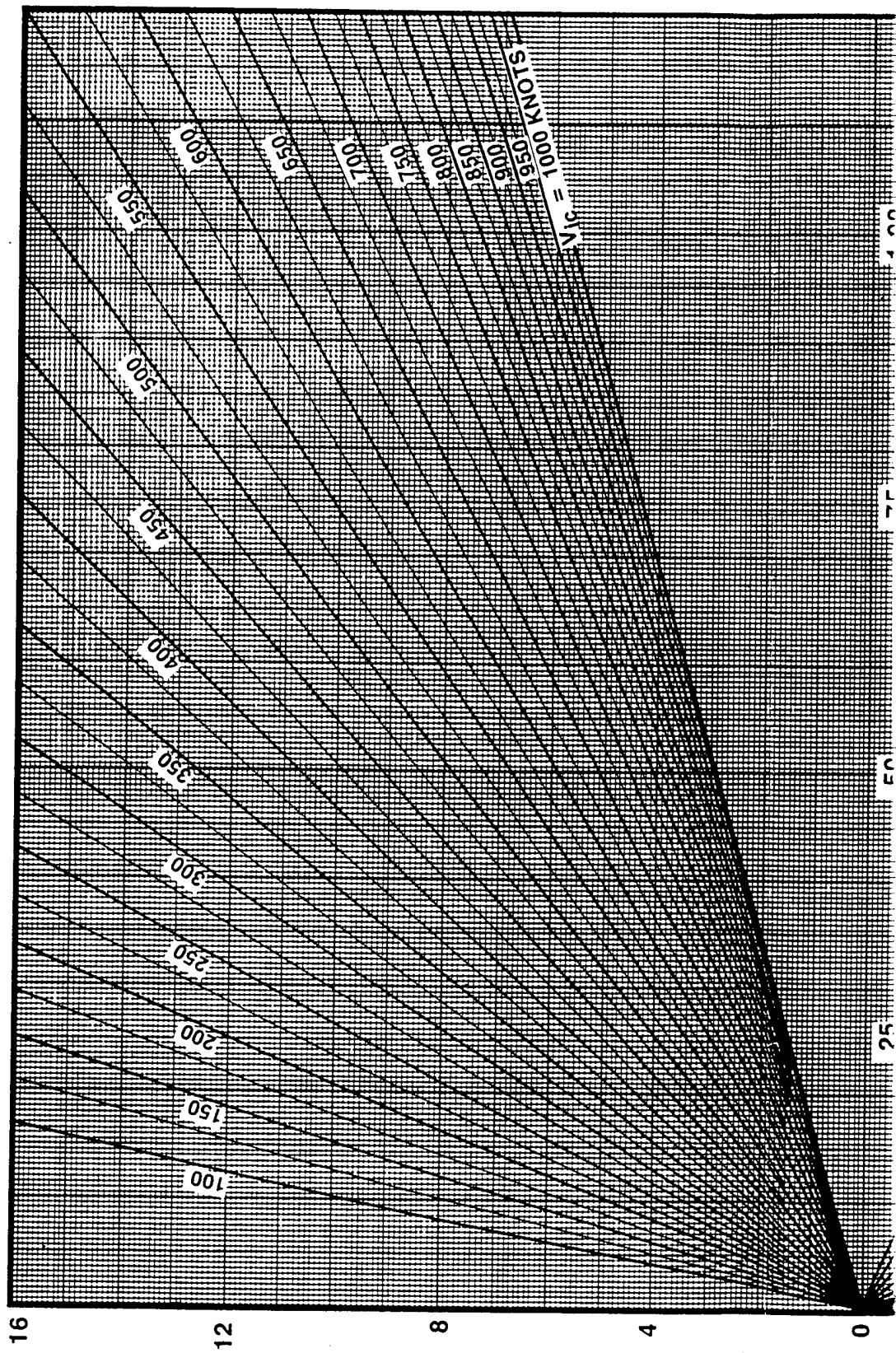
 ΔVPC (KNOTS)

2
C-1-2

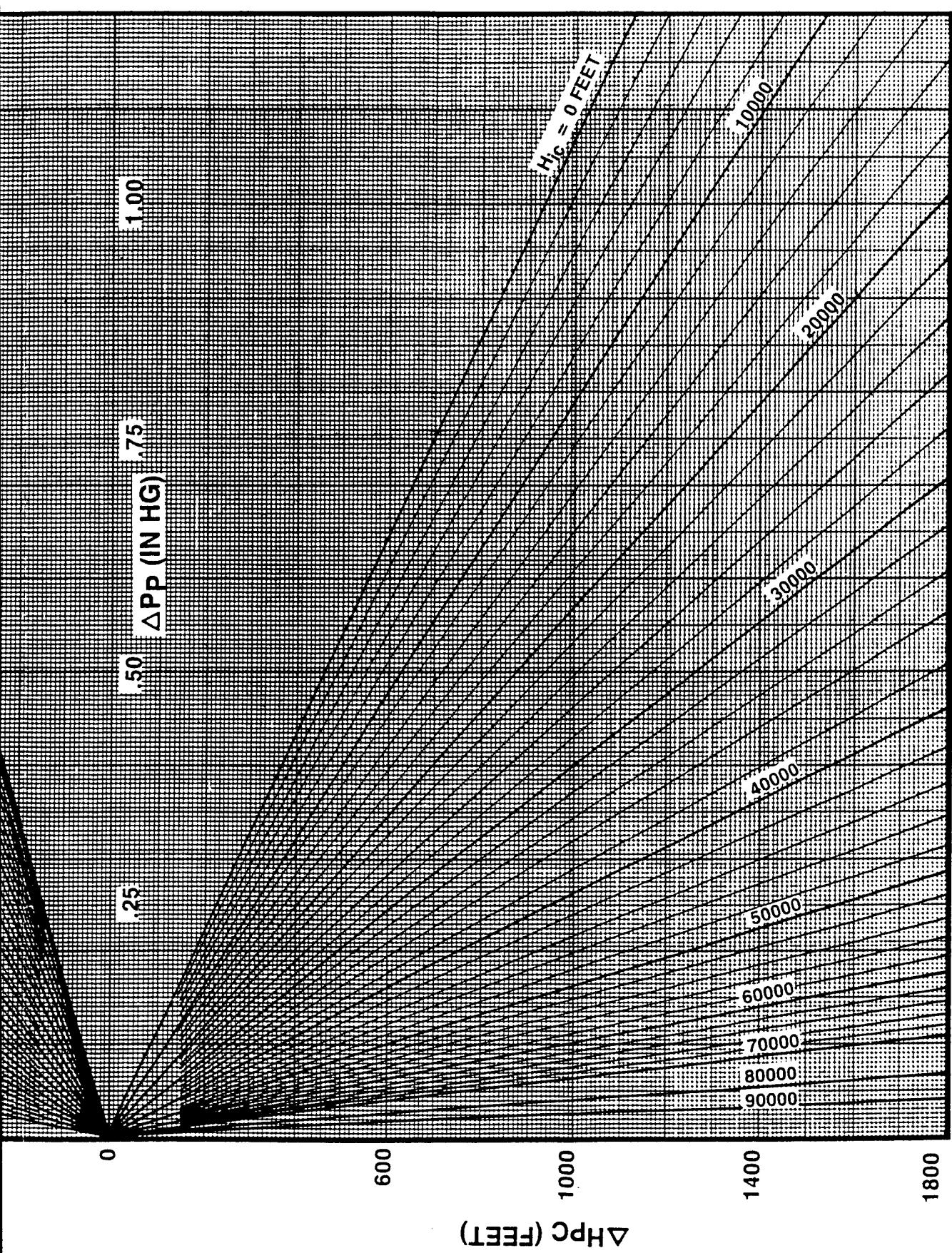
ΔV_{PC} , ΔH_{PC} vs ΔP_P



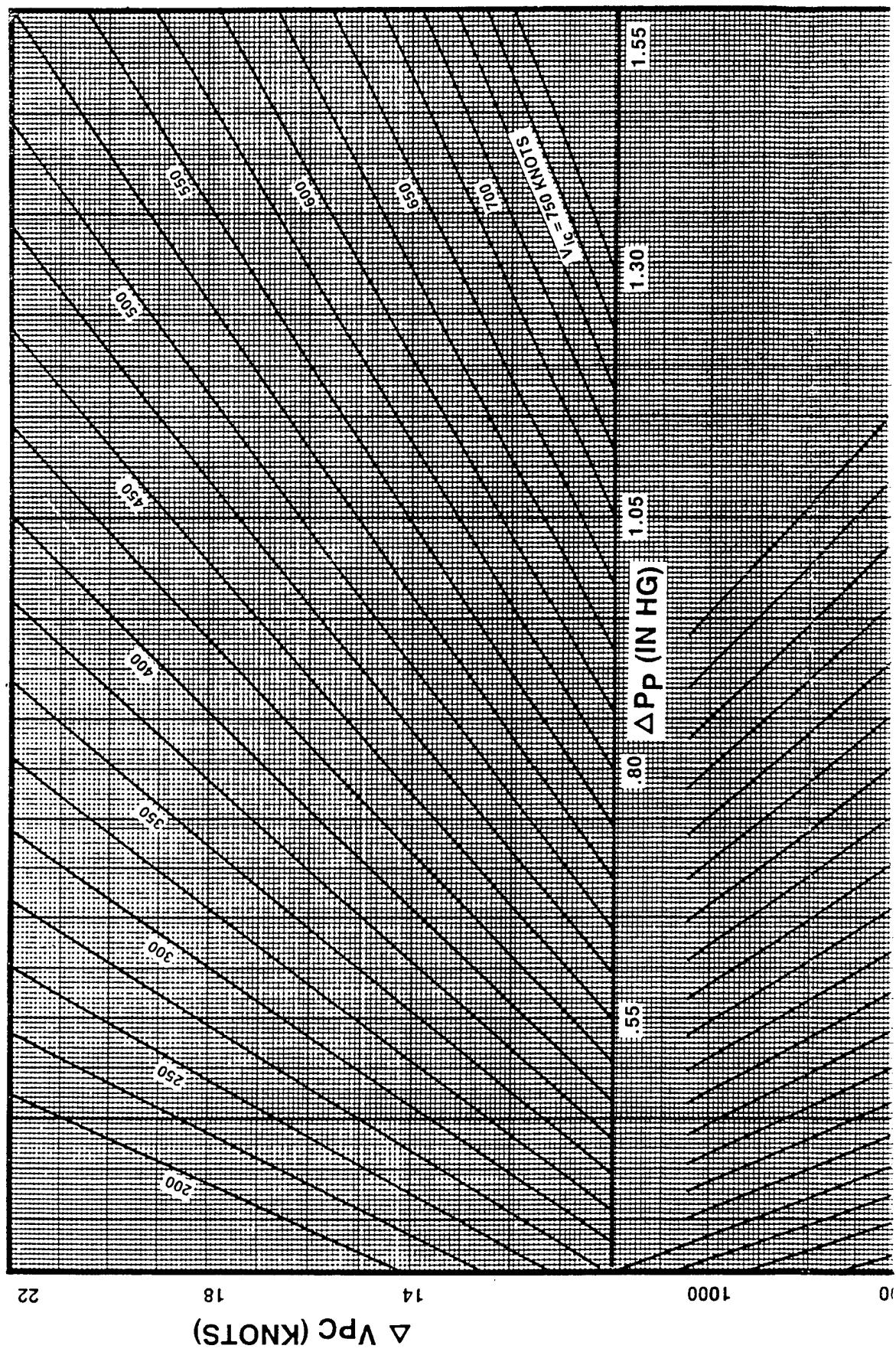
(1)



ΔVPC (KNOTS)

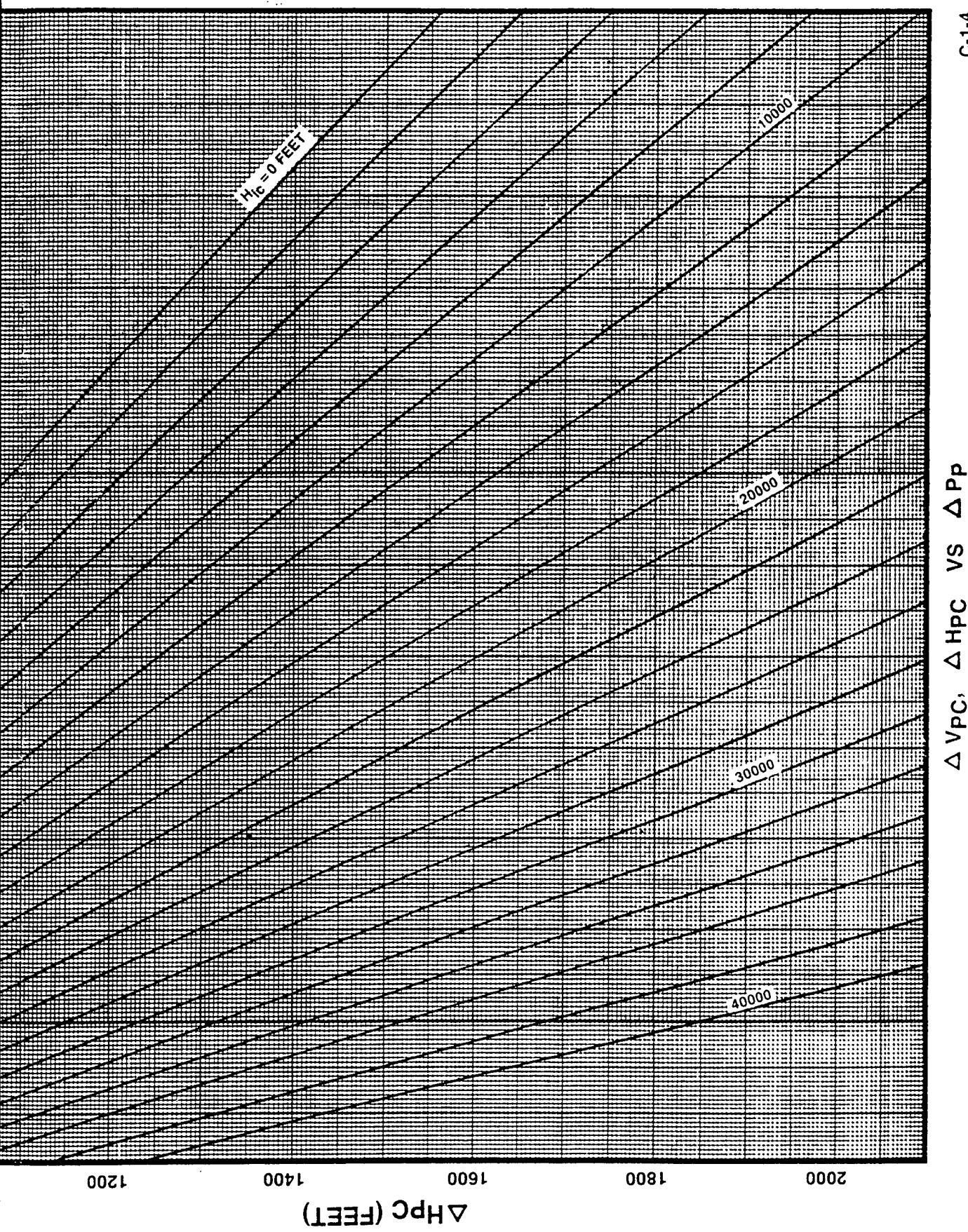
ΔV_{PC} , ΔH_{PC} VS ΔPP 

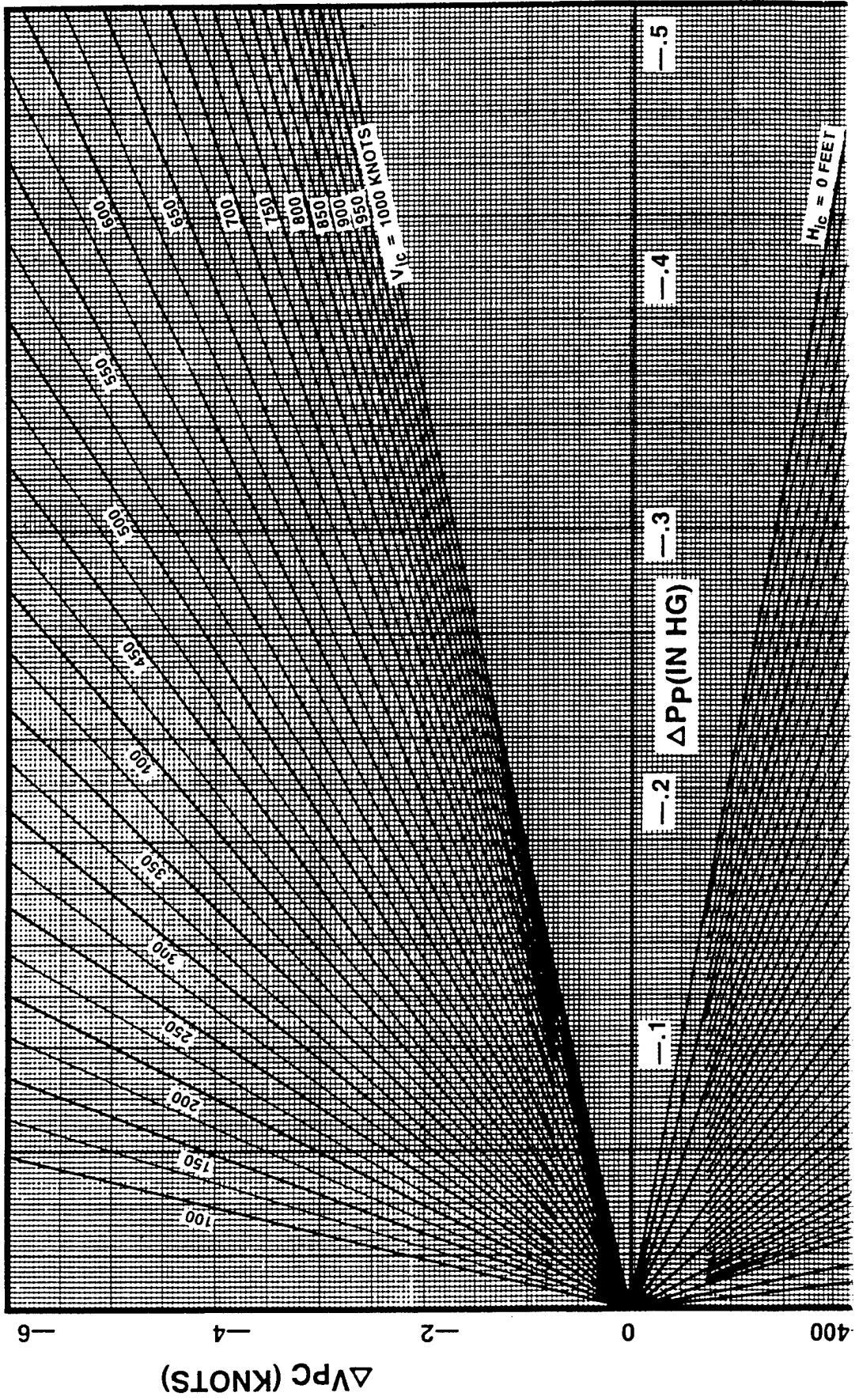
(1)



(2)

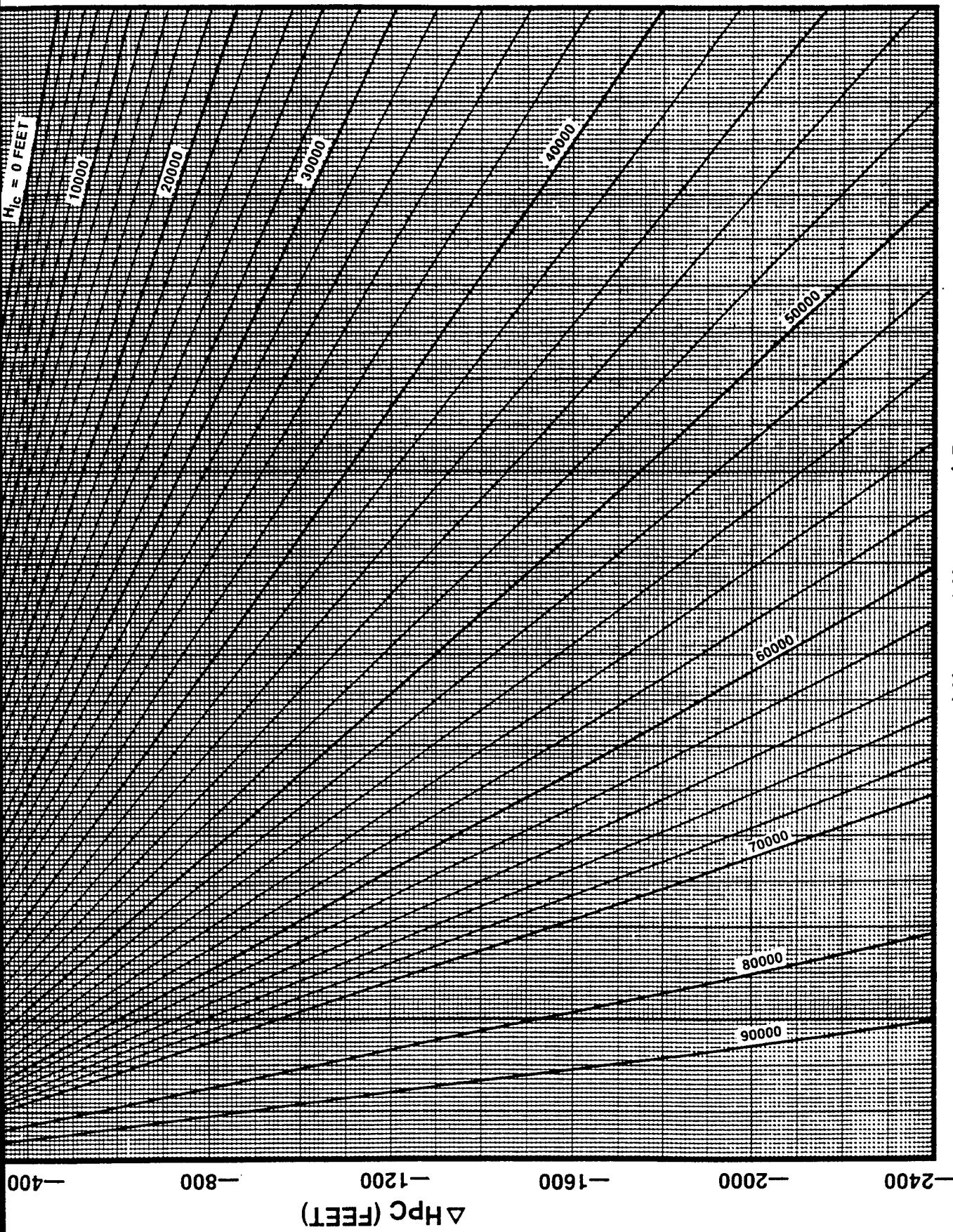
C-1-4

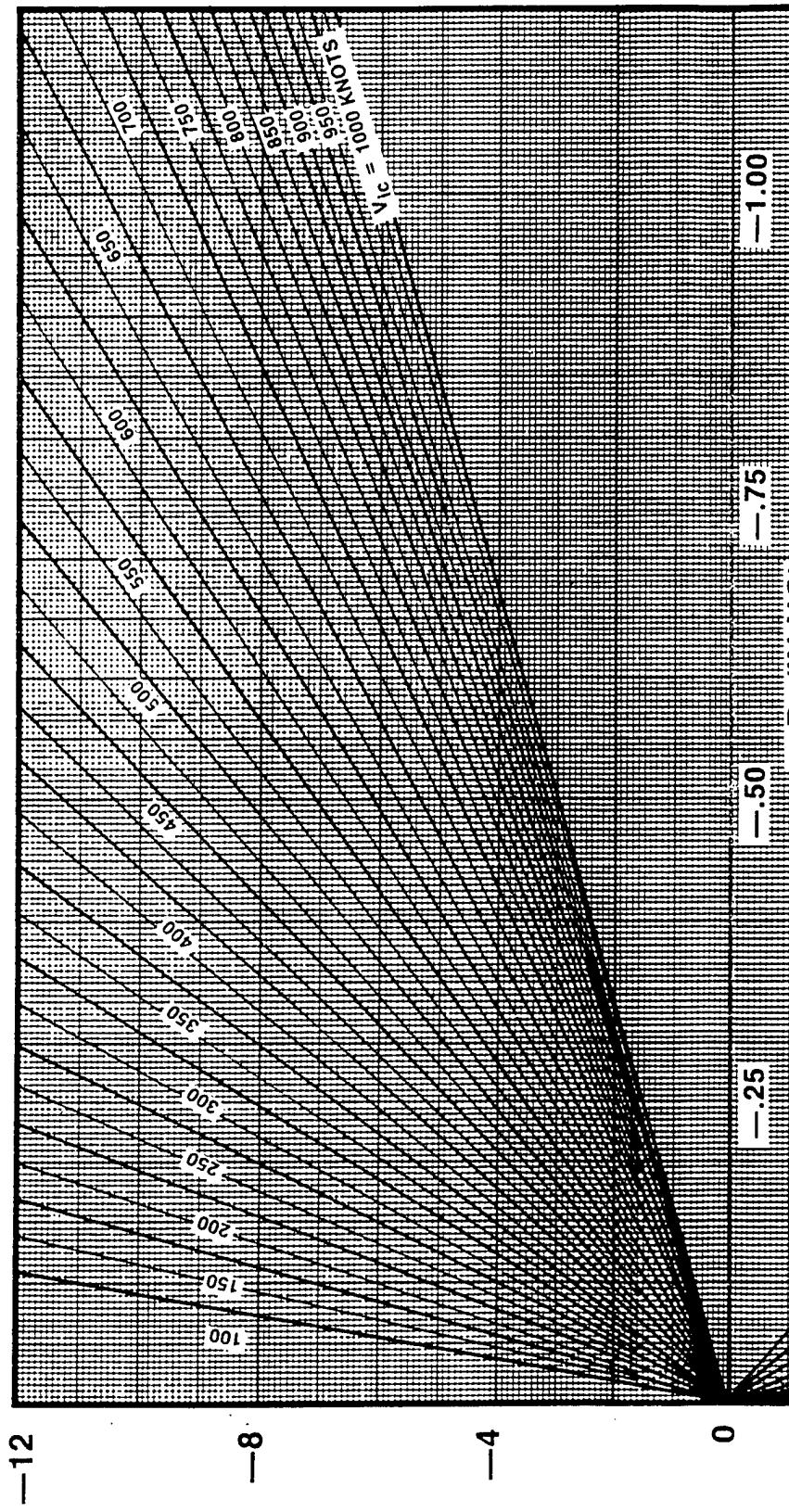




2
C-1-5

$-\Delta V_{PC}$, $-\Delta H_{PC}$ vs $-\Delta P_P$

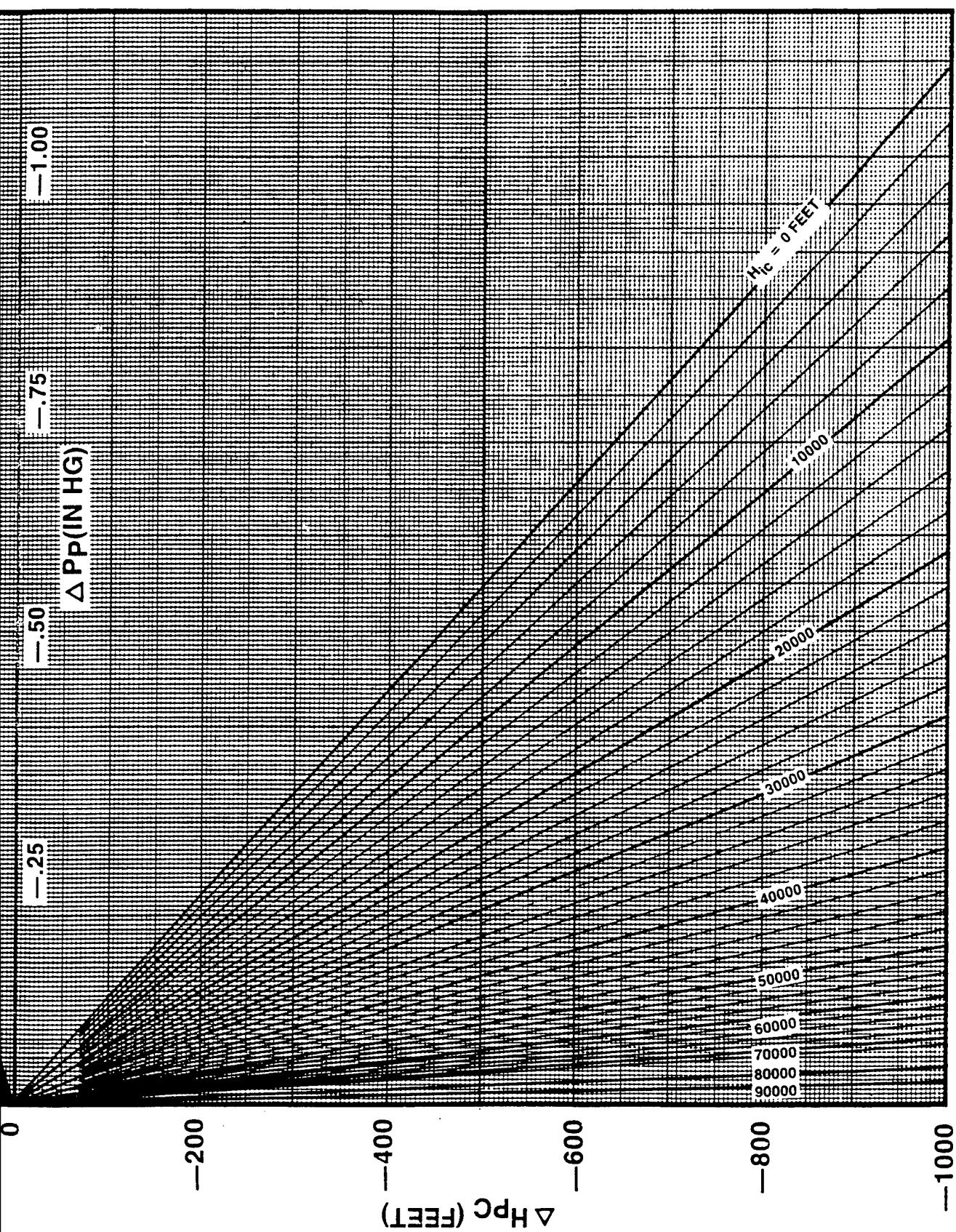


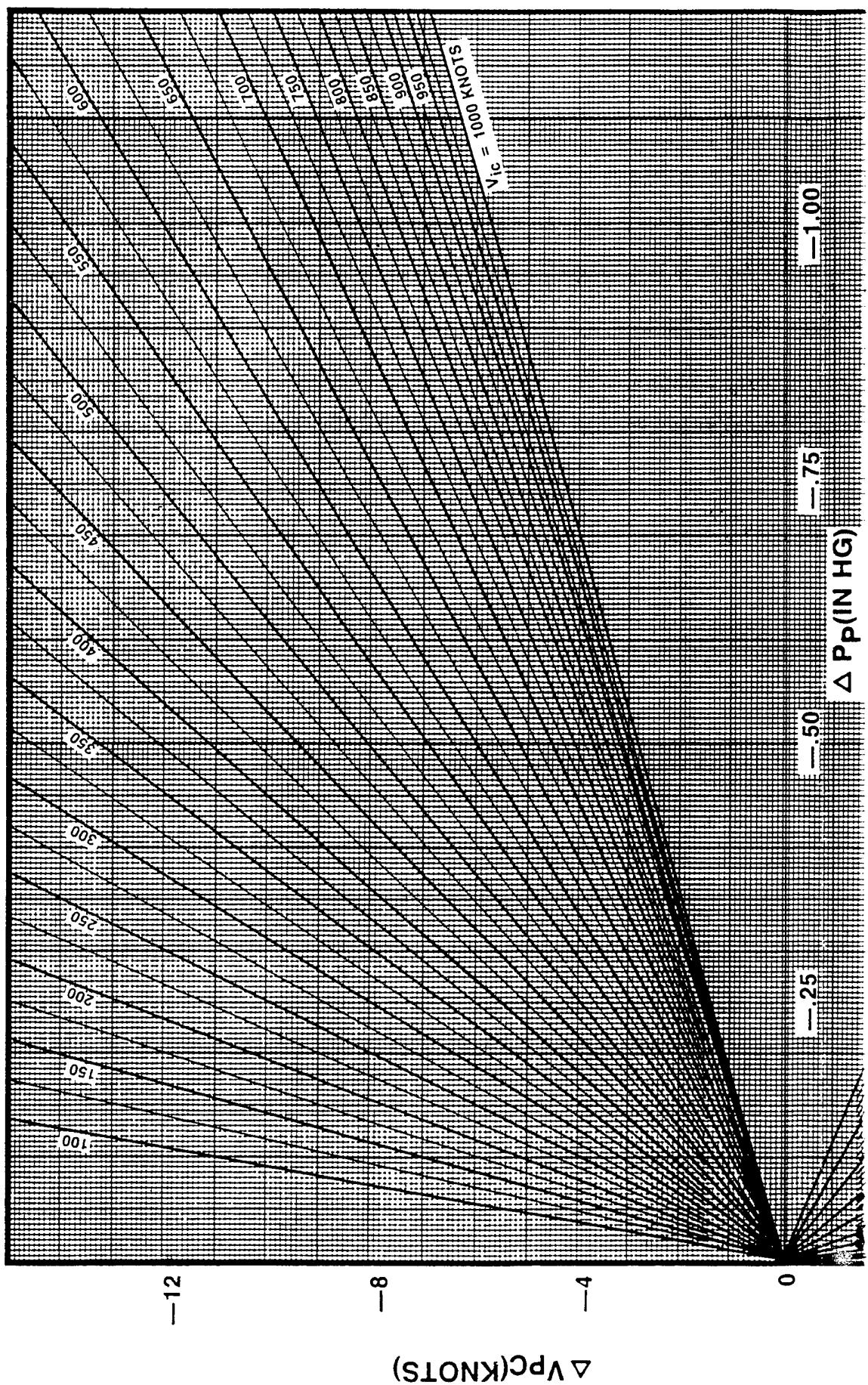


ΔVPC (KNOTS)

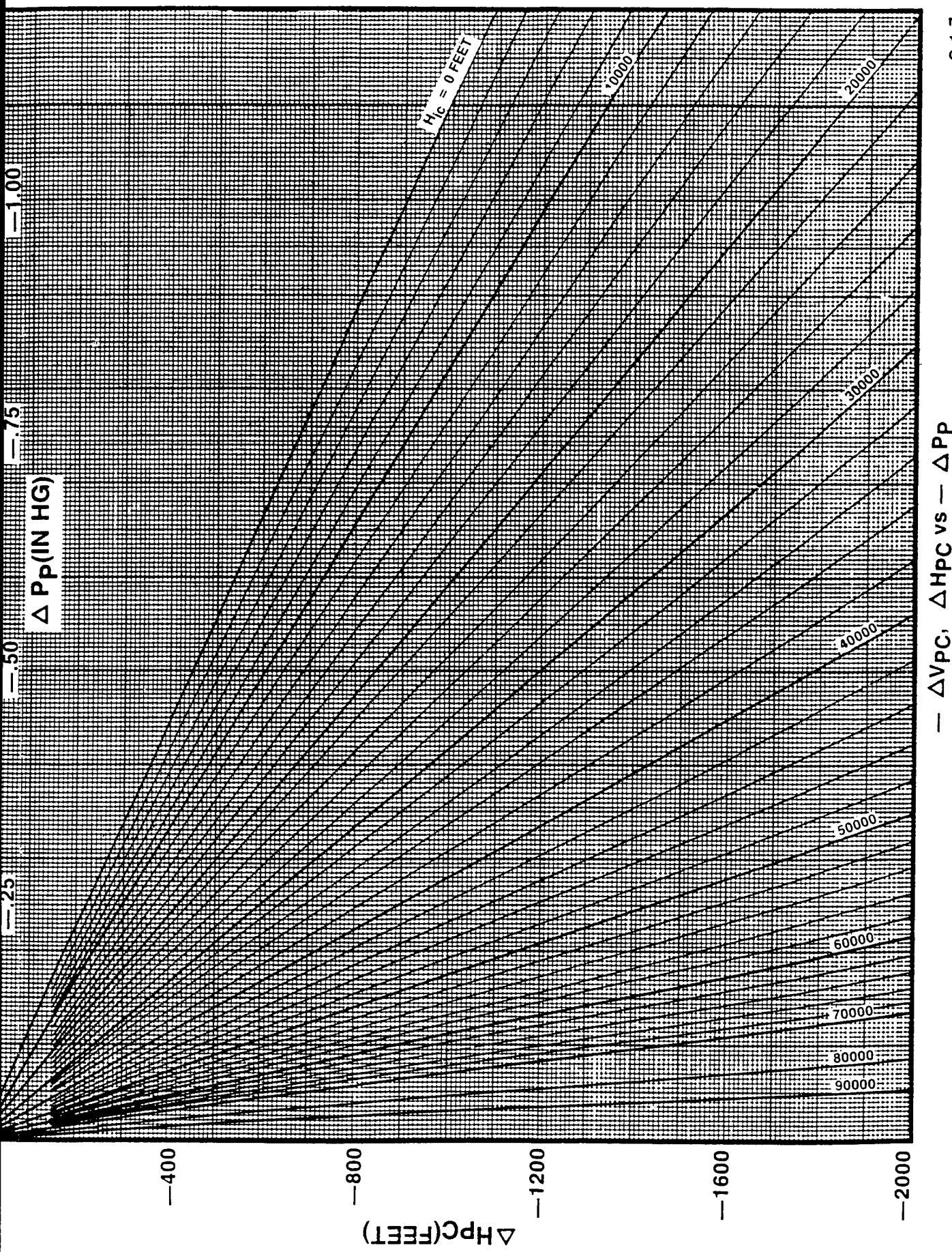
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C-1-6

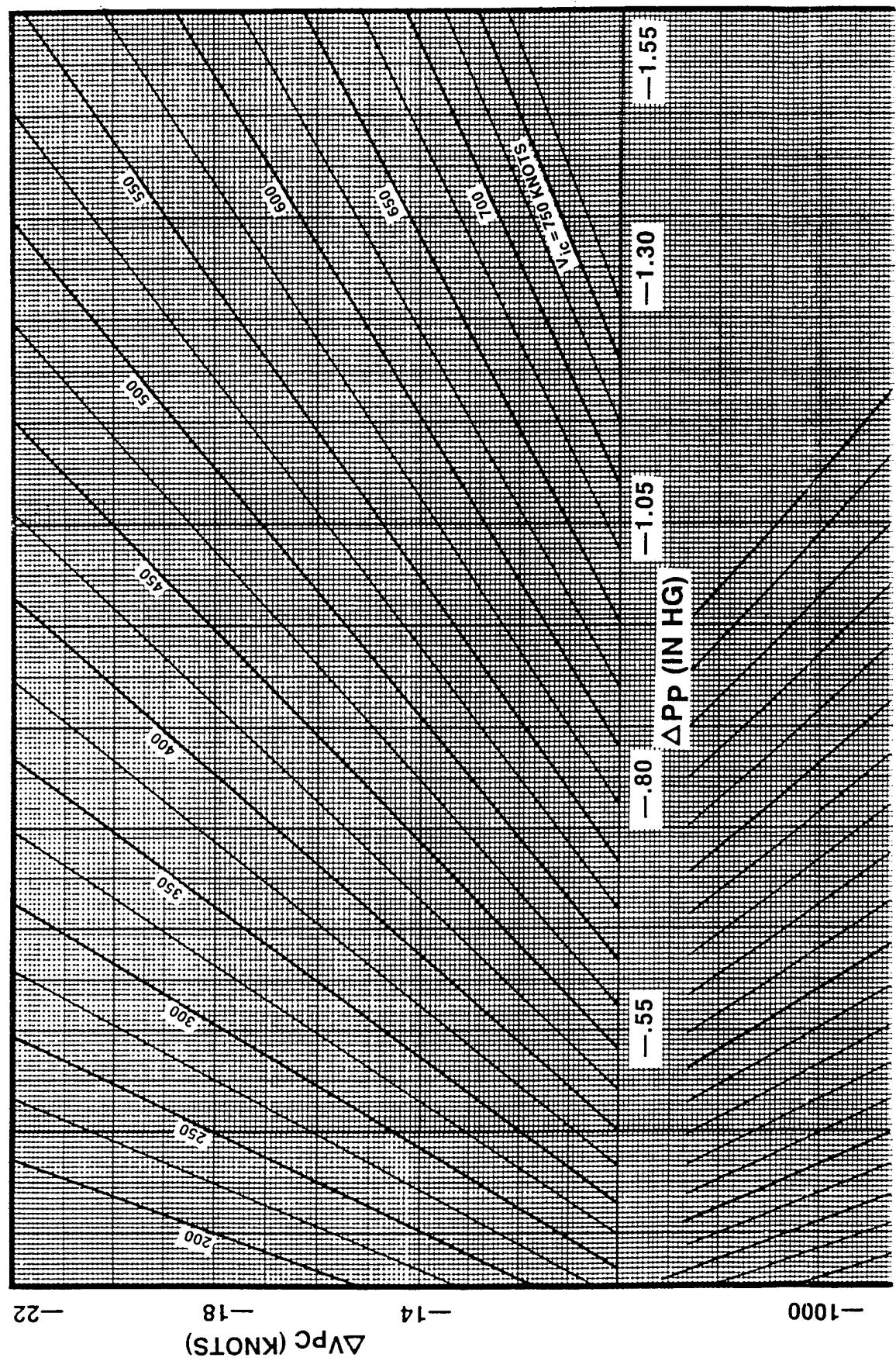
- ΔV_{PC} , - ΔH_{PC} vs - ΔP_P





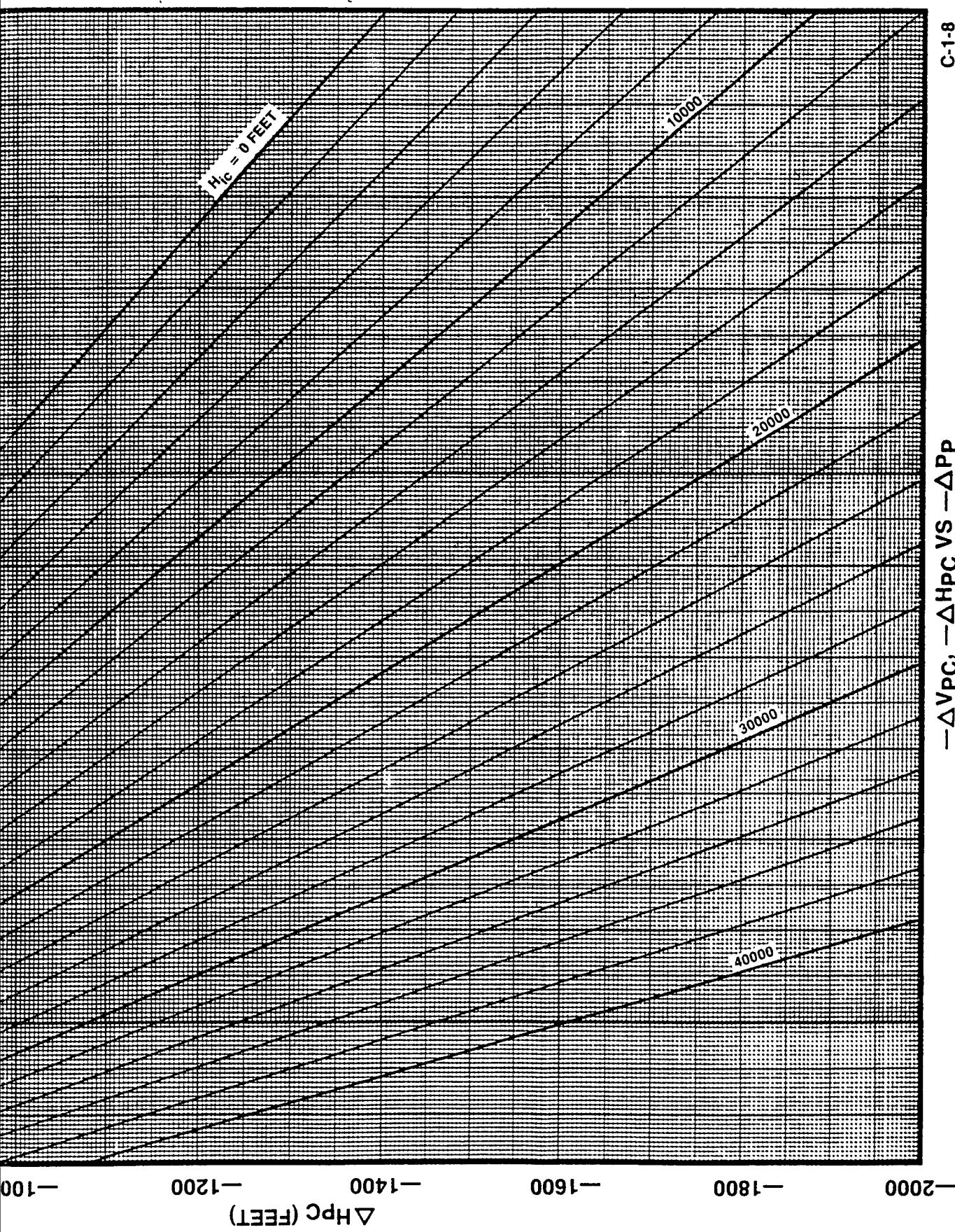
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C-1-7

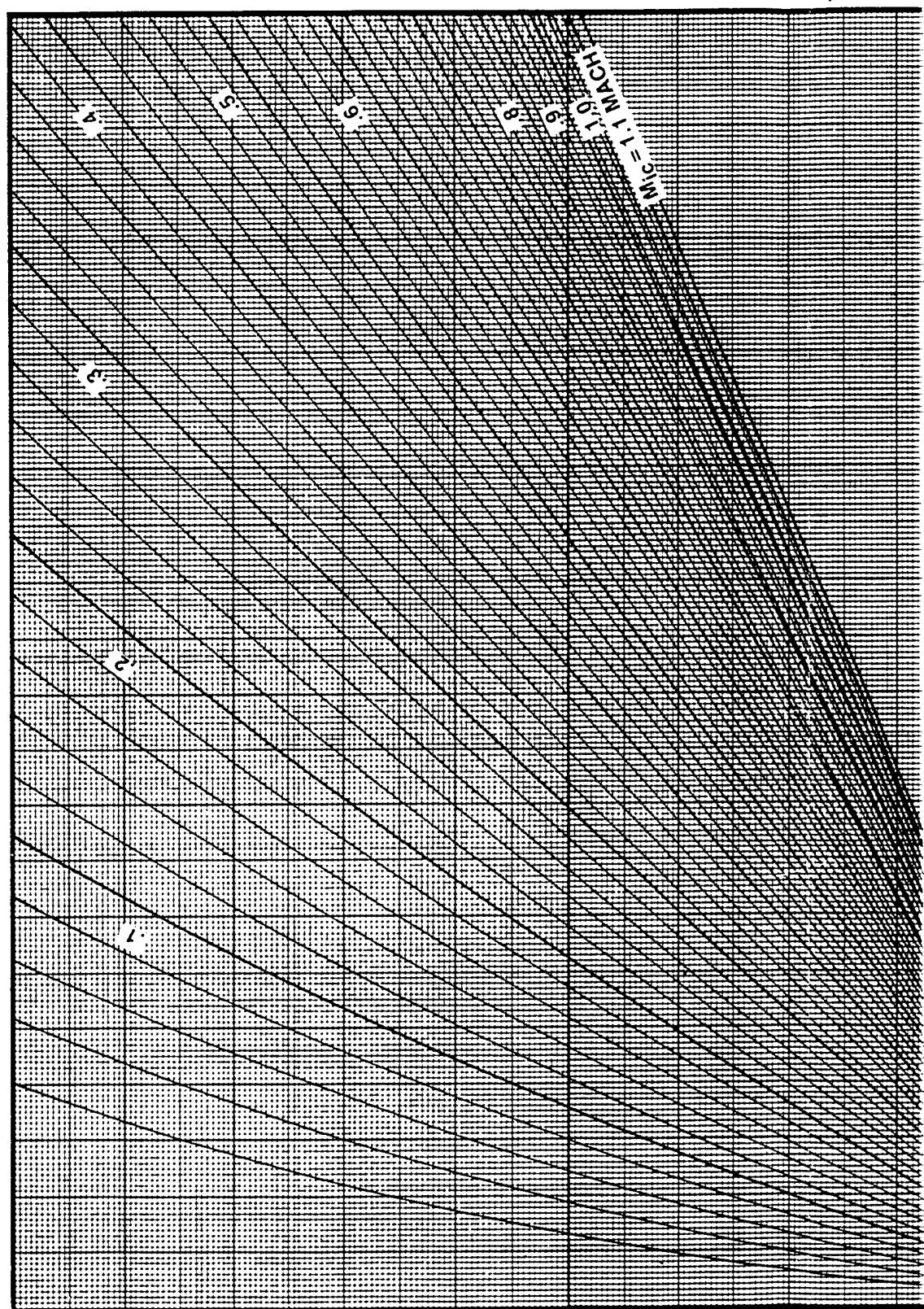




2
C-1-8

- ΔV_{PC} , - ΔH_{PC} VS - ΔP_P





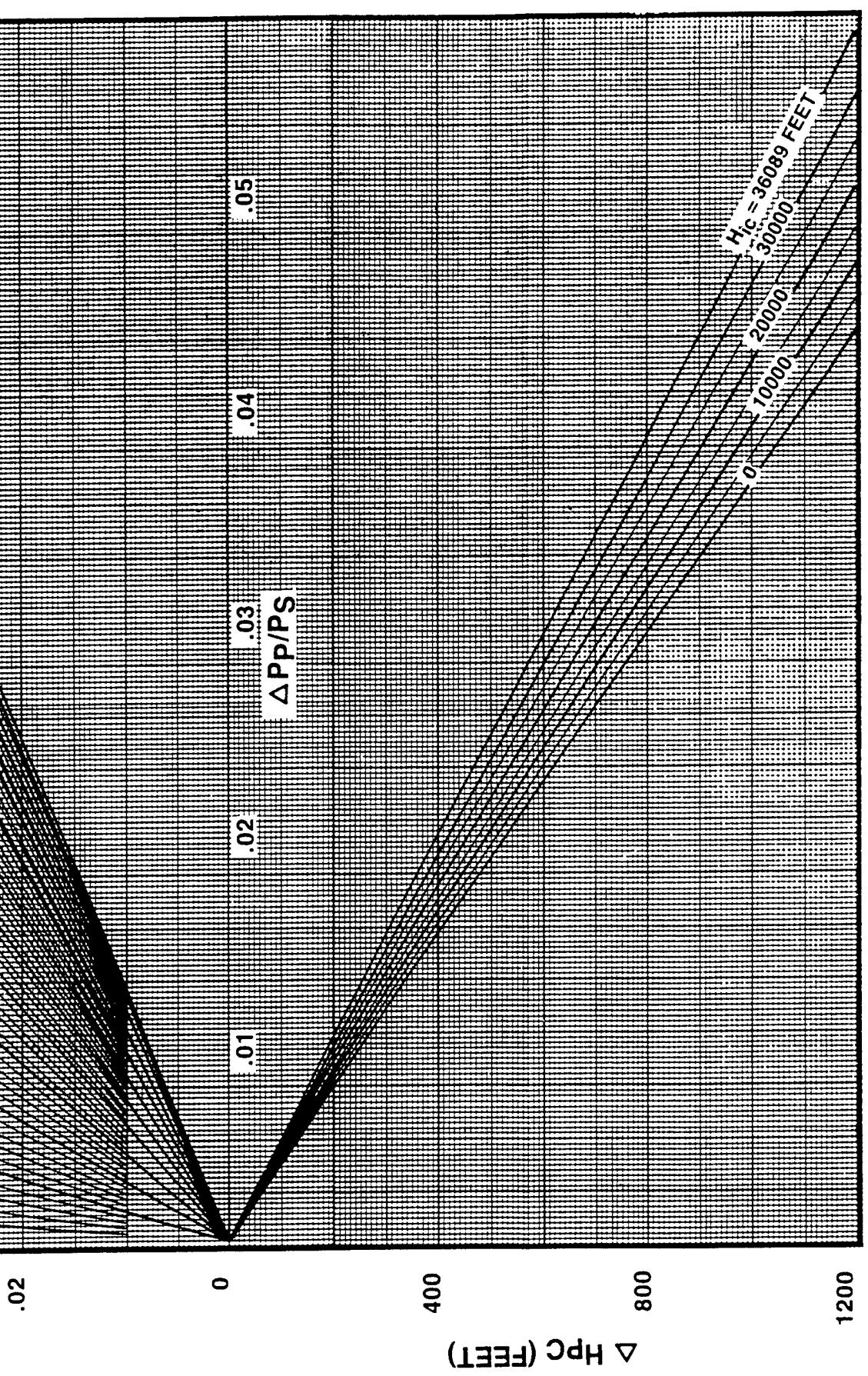
10

80

.06

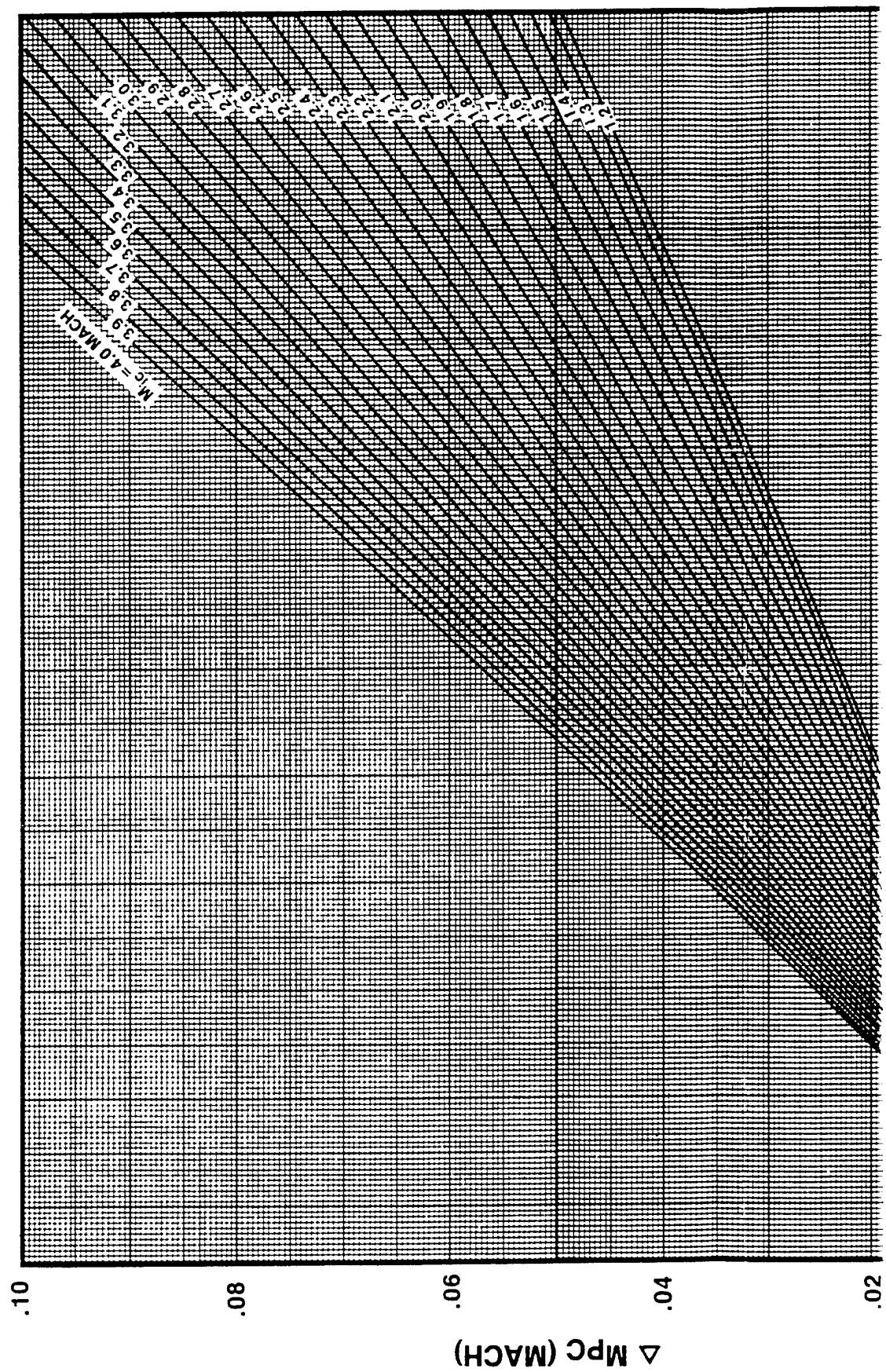
.04

.02



$\Delta M_{PC}, \Delta H_{PC}$ vs $\Delta PP/PS$

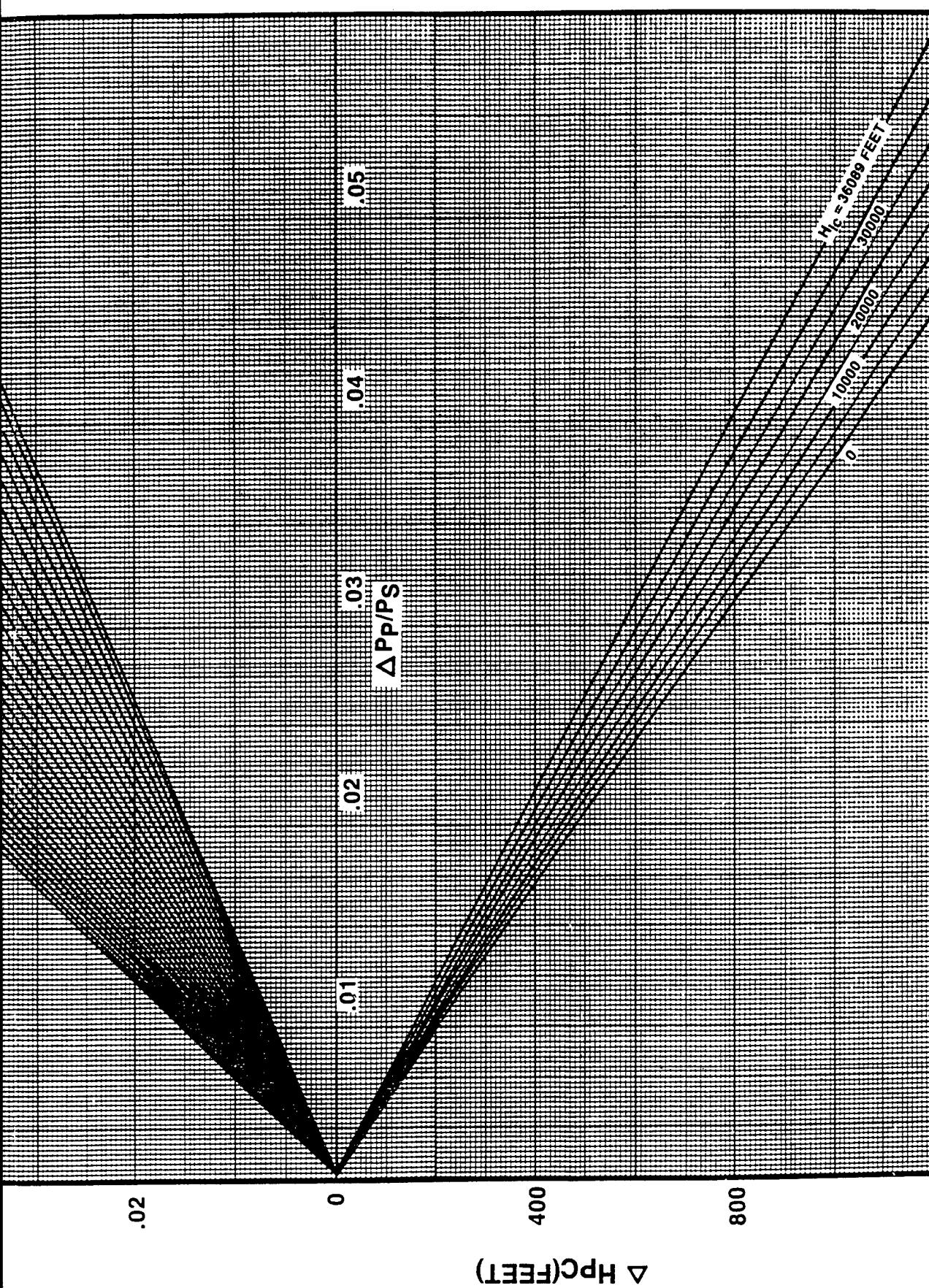
C-1-9

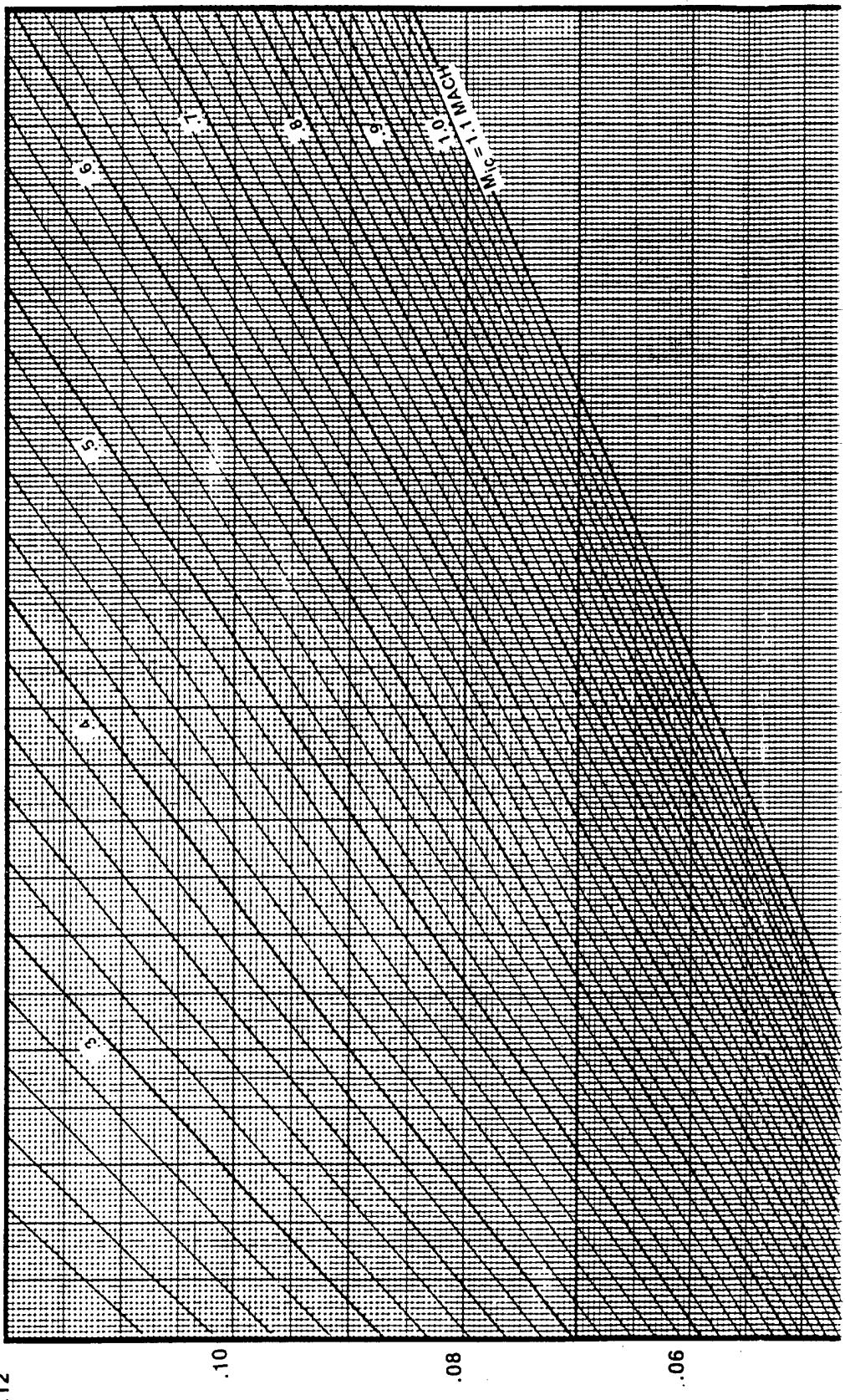


(2)

C-1-10

ΔM_{PC} , ΔH_{PC} vs $\Delta P_P/P_S$





ΔMPC(MACH)

2

C-1-11

.04

1400

1800

2200

ΔH_{PC} (FEET)

.09

.08

.07

.06

.05

$\Delta P_P/P_S$

$H_c = 36089$ FEET

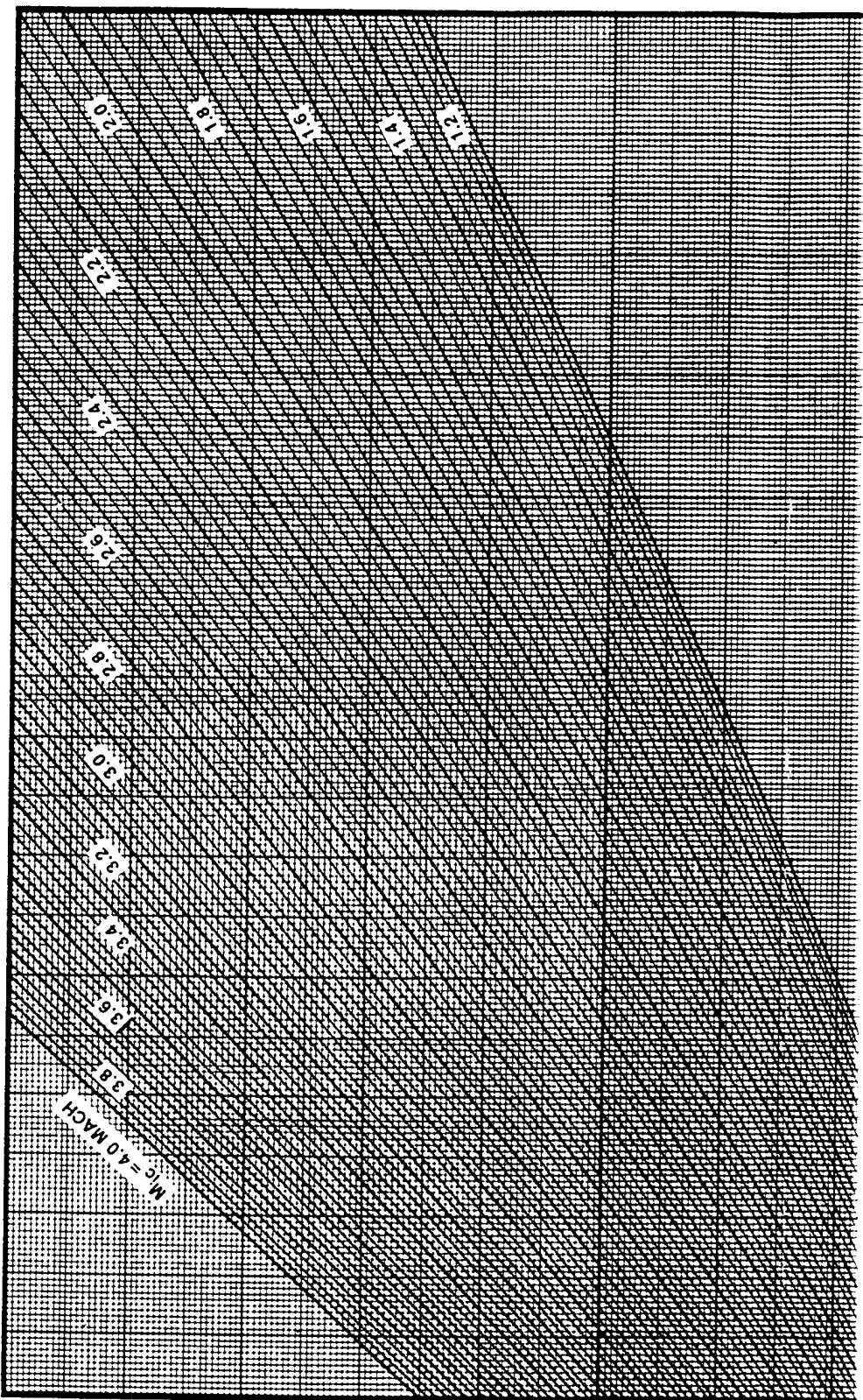
30000

20000

10000

0

$\Delta M_{PC}, \Delta H_{PC}$ vs $\Delta P_P/P_S$



.12

.10

.08

.06

(2)

C-1-12

.04

1400

1800

2200

ΔH_{PC} (FEET)

.09

.08

.07

.06

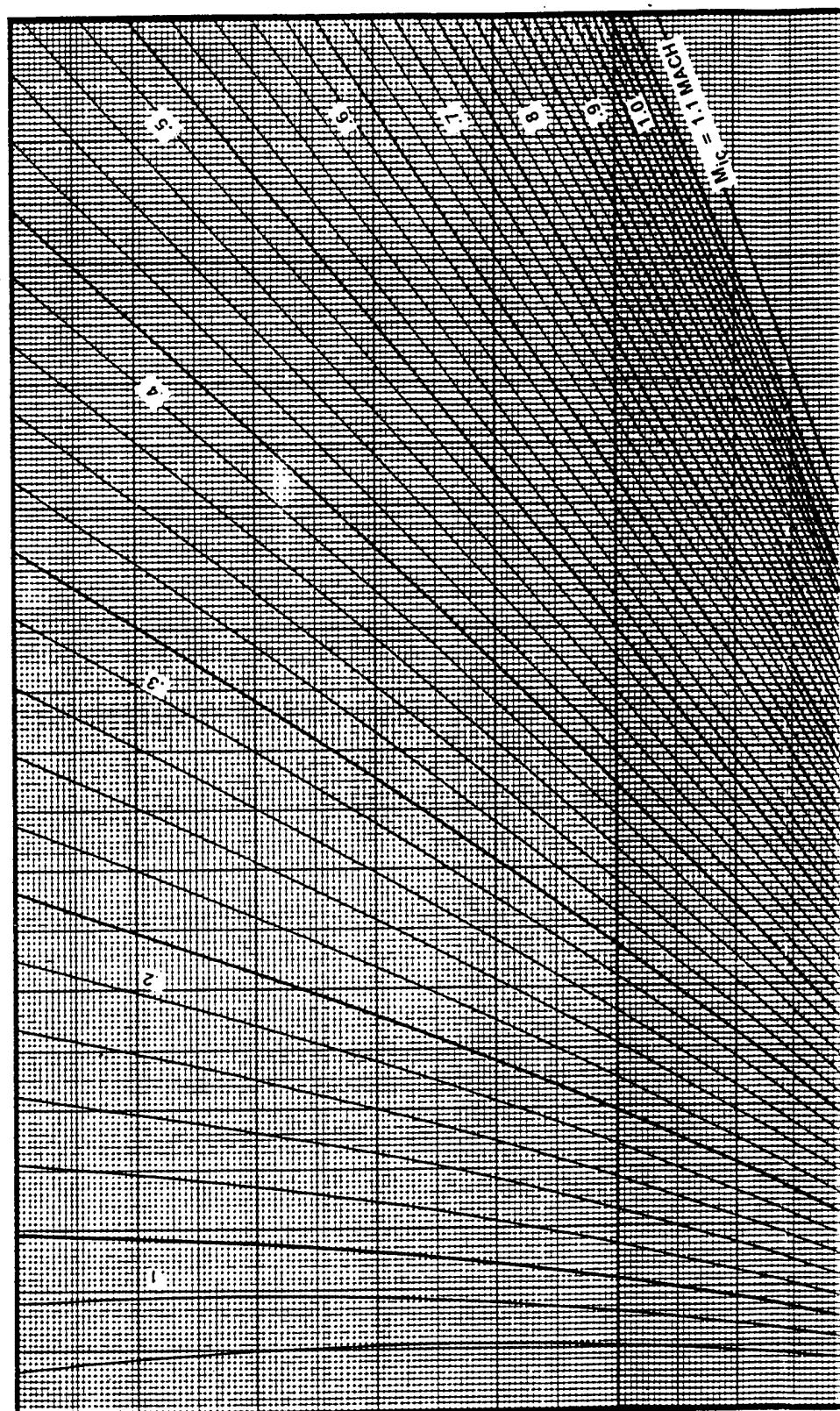
.05

$\Delta P_P/P_S$

$H_c = 35089$ FEET
30000
20000
10000
0

- ΔM_{PC} , - ΔH_{PC} vs - $\Delta P_P/P_S$

(1)



-1.0

-0.8

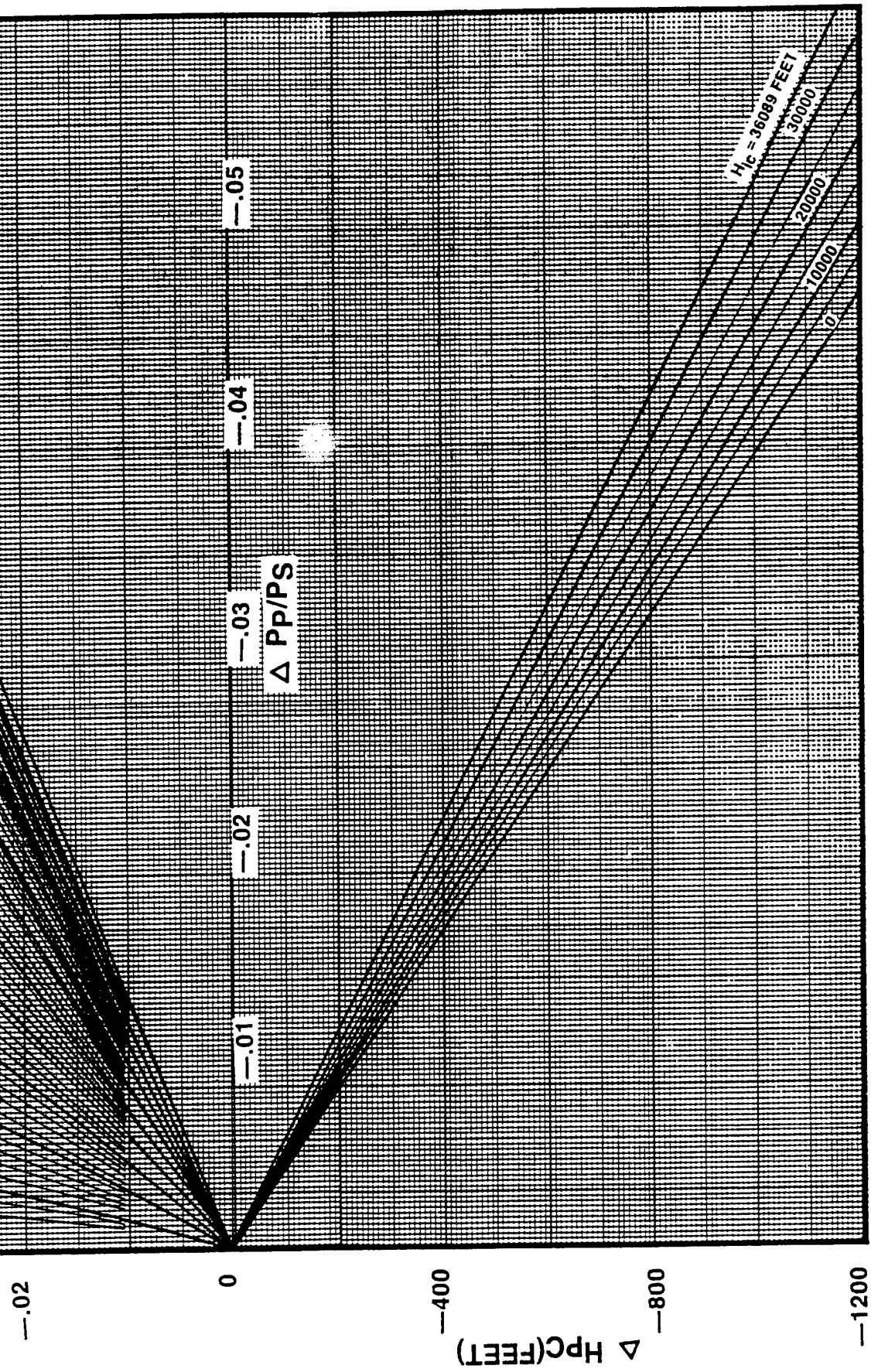
-0.6

-0.4

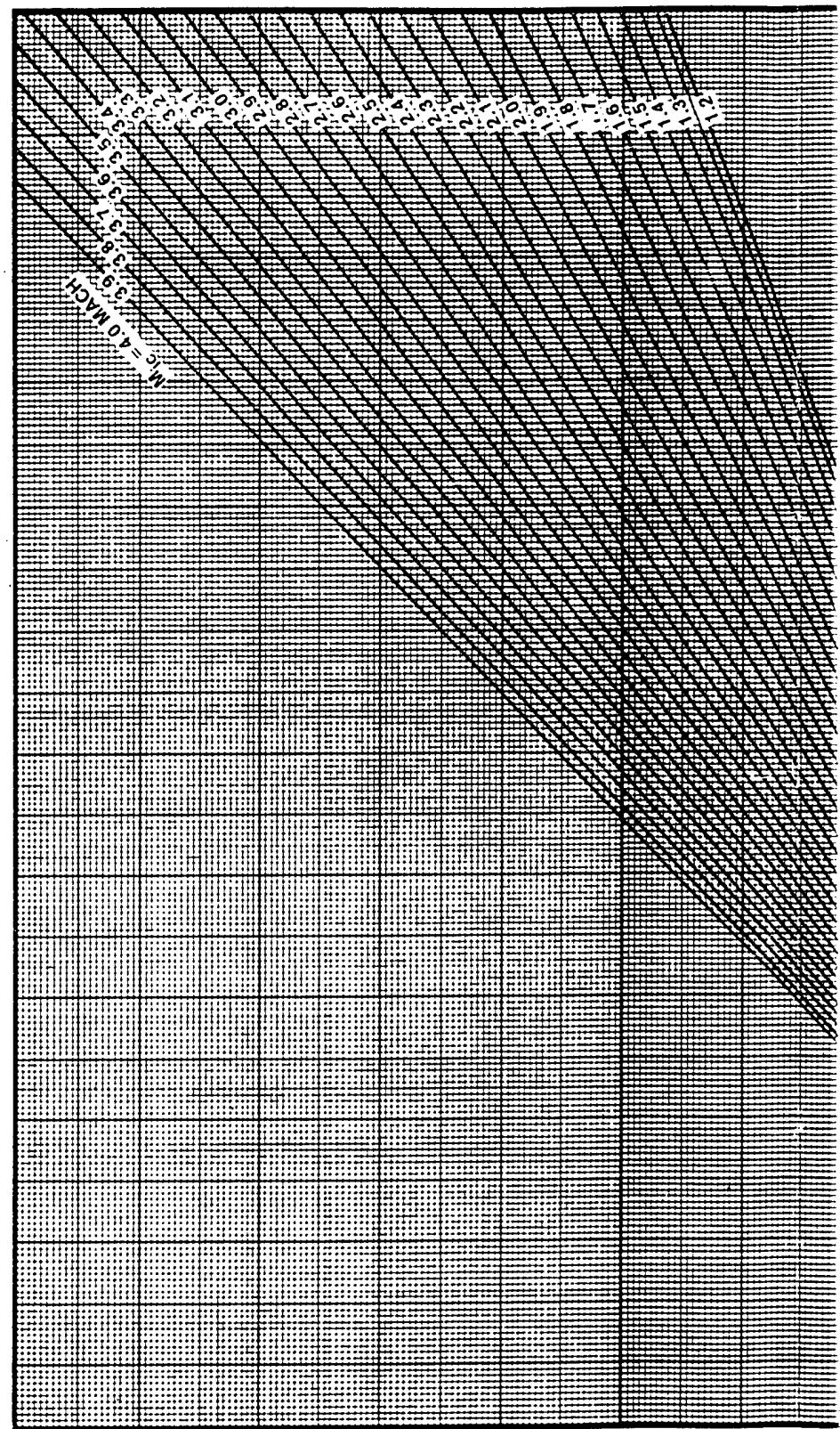
Δ MPC(MACH)

Z
C-1-13

$-\Delta M_{PC}$, $-\Delta H_{PC}$ vs $-\Delta P_P/P_S$



(1)



-1.10

-1.08

-1.06

-1.04

$\Delta M_{PC(MACH)}$

C-1-14

$-\Delta M_{PC}, -\Delta H_{PC} \text{ vs } -\Delta P_{p/PS}$

$H_c = 36089 \text{ FEET}$
30000
20000
10000
0

$\Delta H_{PC}(\text{FEET})$

-0.02

0

-400

-800

-1200

$\Delta P_{p/PS}$

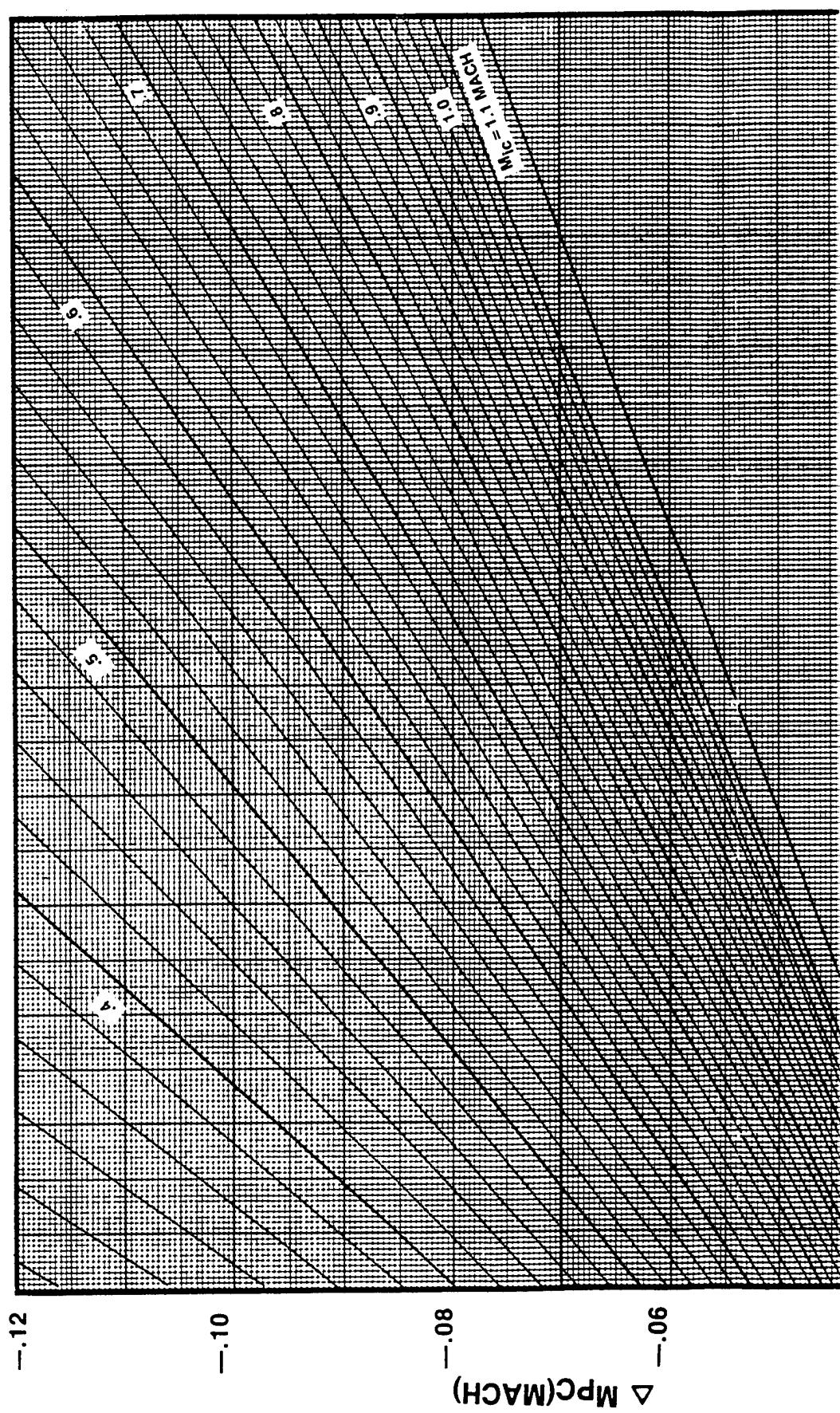
-0.05

-0.04

-0.03

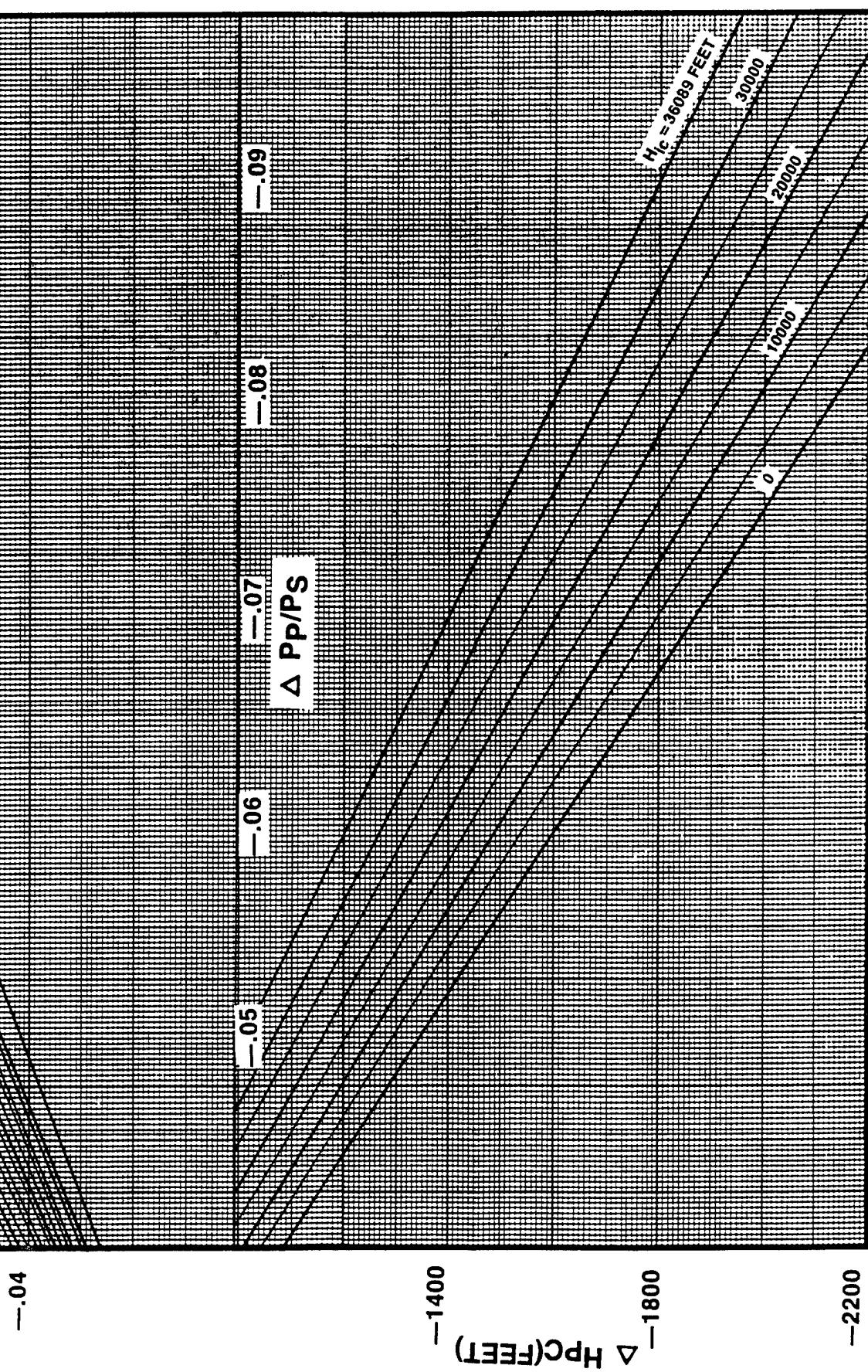
-0.02

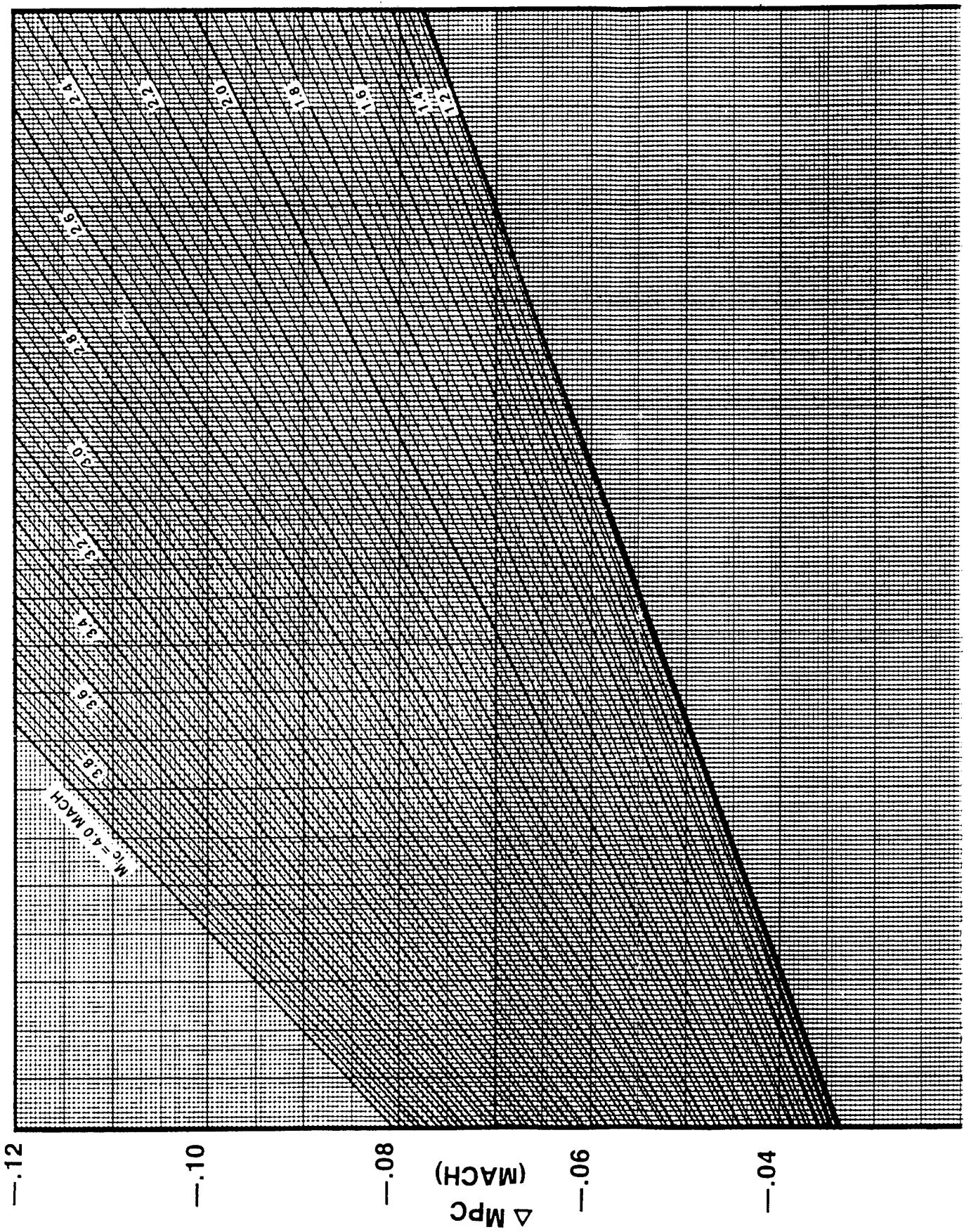
-0.01



2
C-1-15

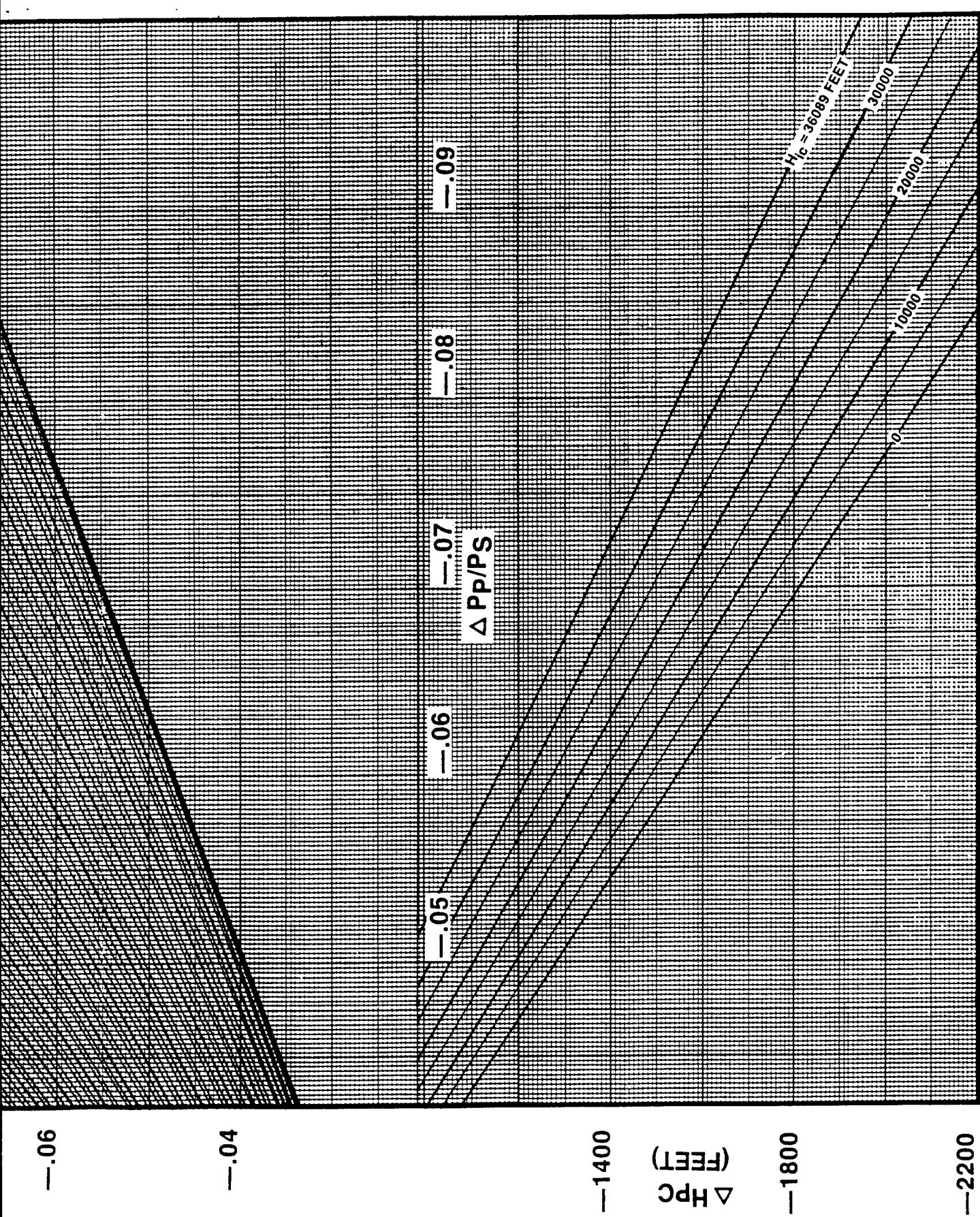
$-\Delta H_{PC}$, $-\Delta H_{PC}$ vs $-\Delta P_P/P_S$



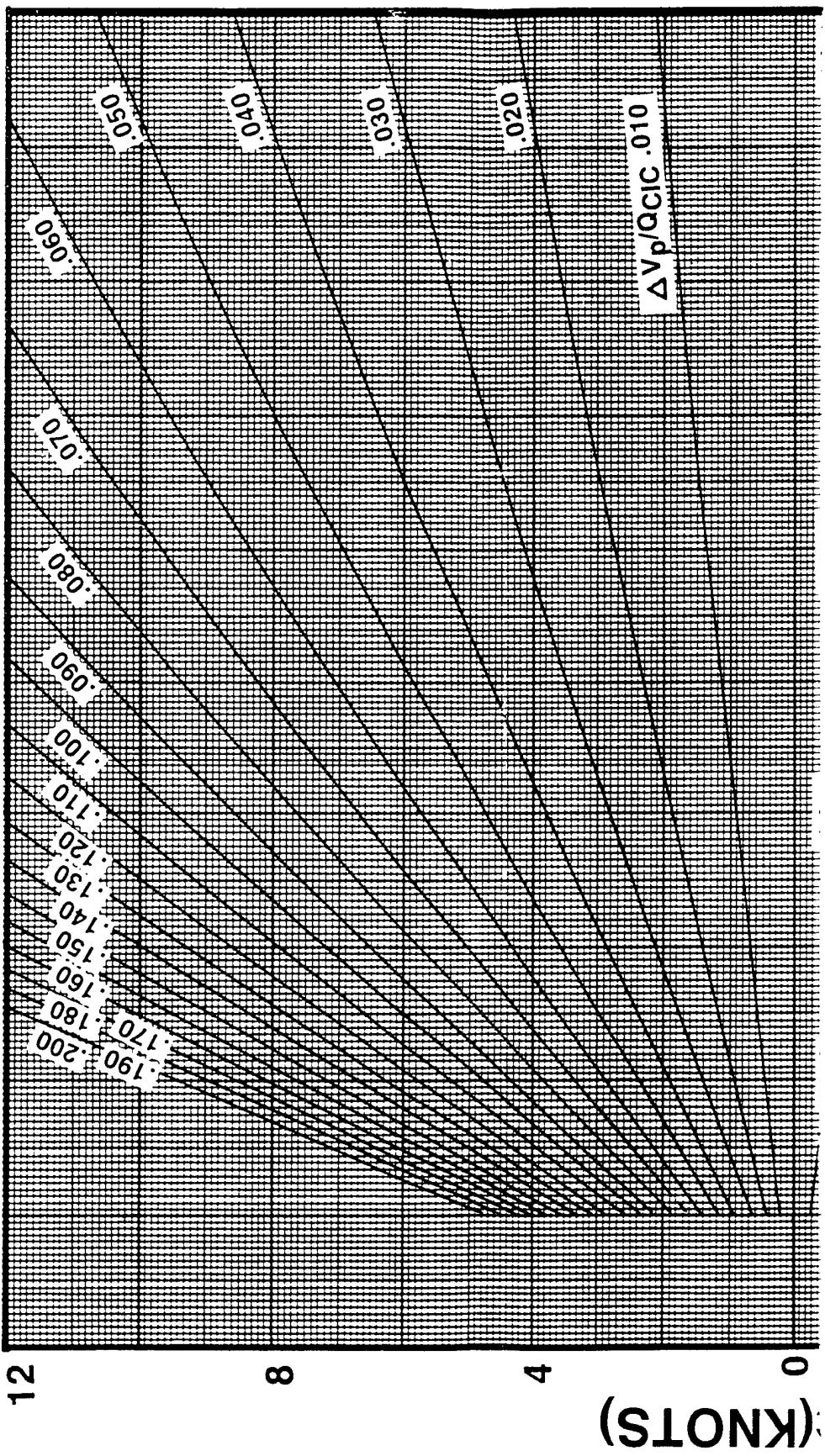


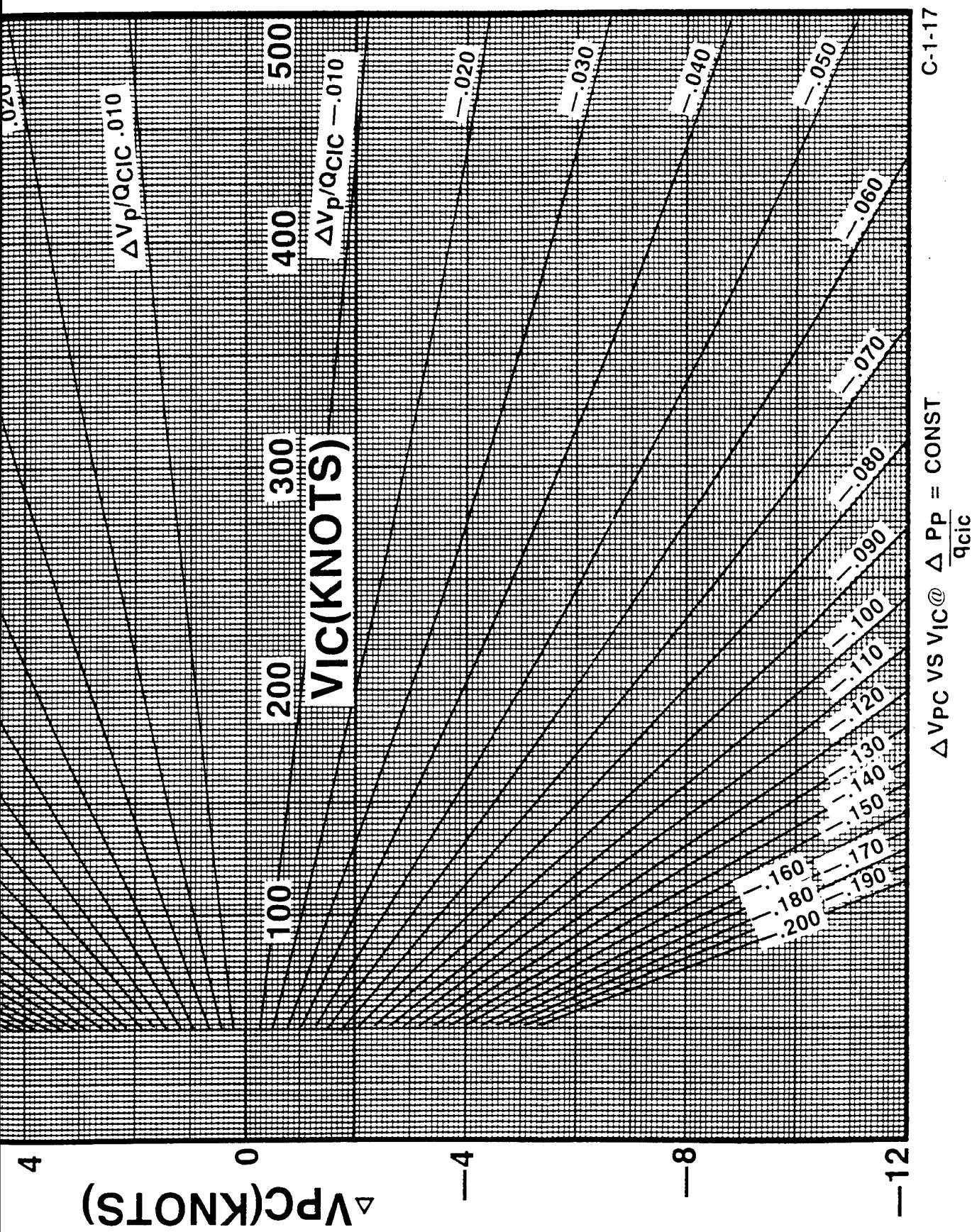
2
C-1-16

— ΔM_{PC} , — ΔH_{PC} vs — $\Delta P_P/P_S$



(1)





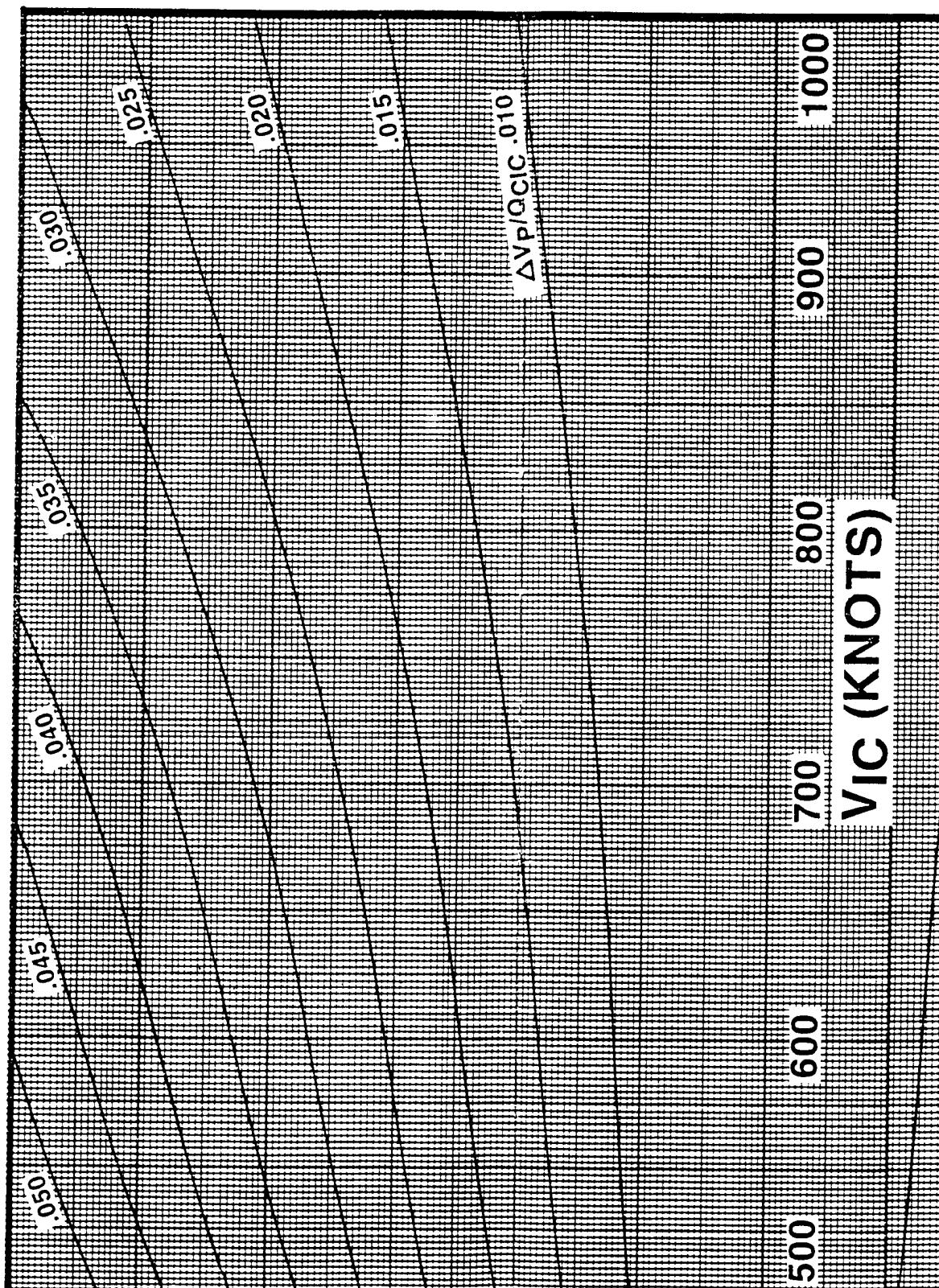
ΔVPC (KNOTS)

12 8 4 0

1000
900
800
700
600
500

$\Delta VP/QACIC : 010$

(1)



ΔVIC (KNOTS)

4

 ΔV_{PC} (KNOTS)

0

-4

-8

-12

500

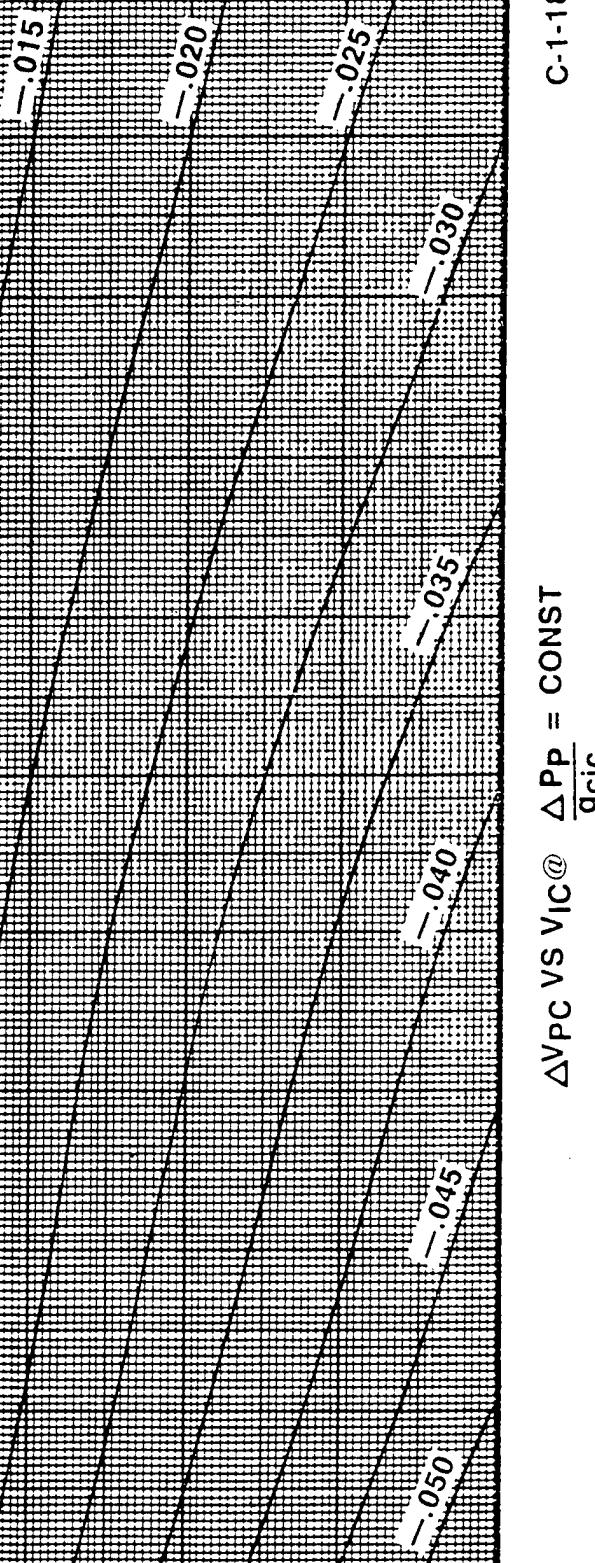
600

700

800

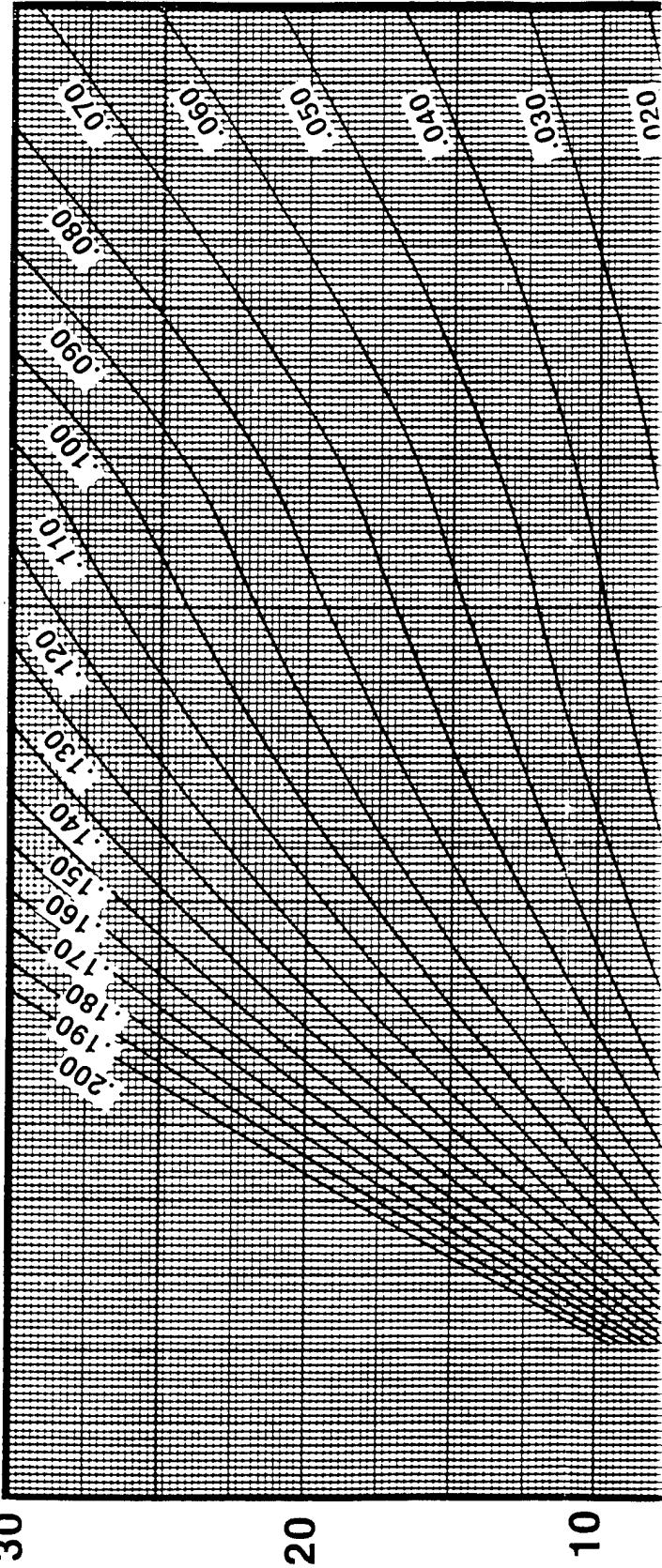
900

1000

 V_{IC} (KNOTS) $\Delta V_P/QCIC = -0.10$ 

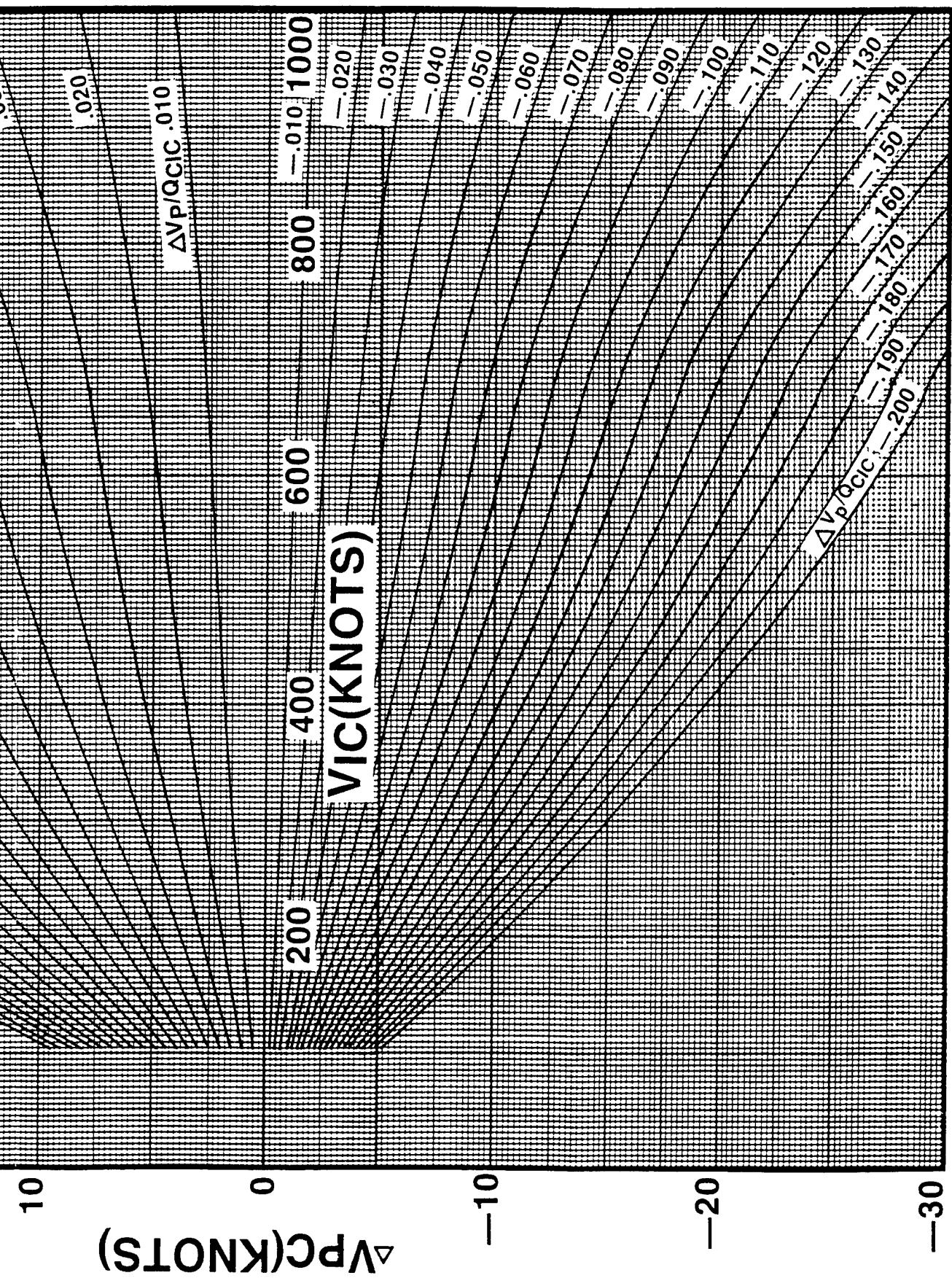
$$\Delta V_{PC} \text{ vs } V_{IC} @ \frac{\Delta P_P}{q_{cic}} = \text{CONST}$$

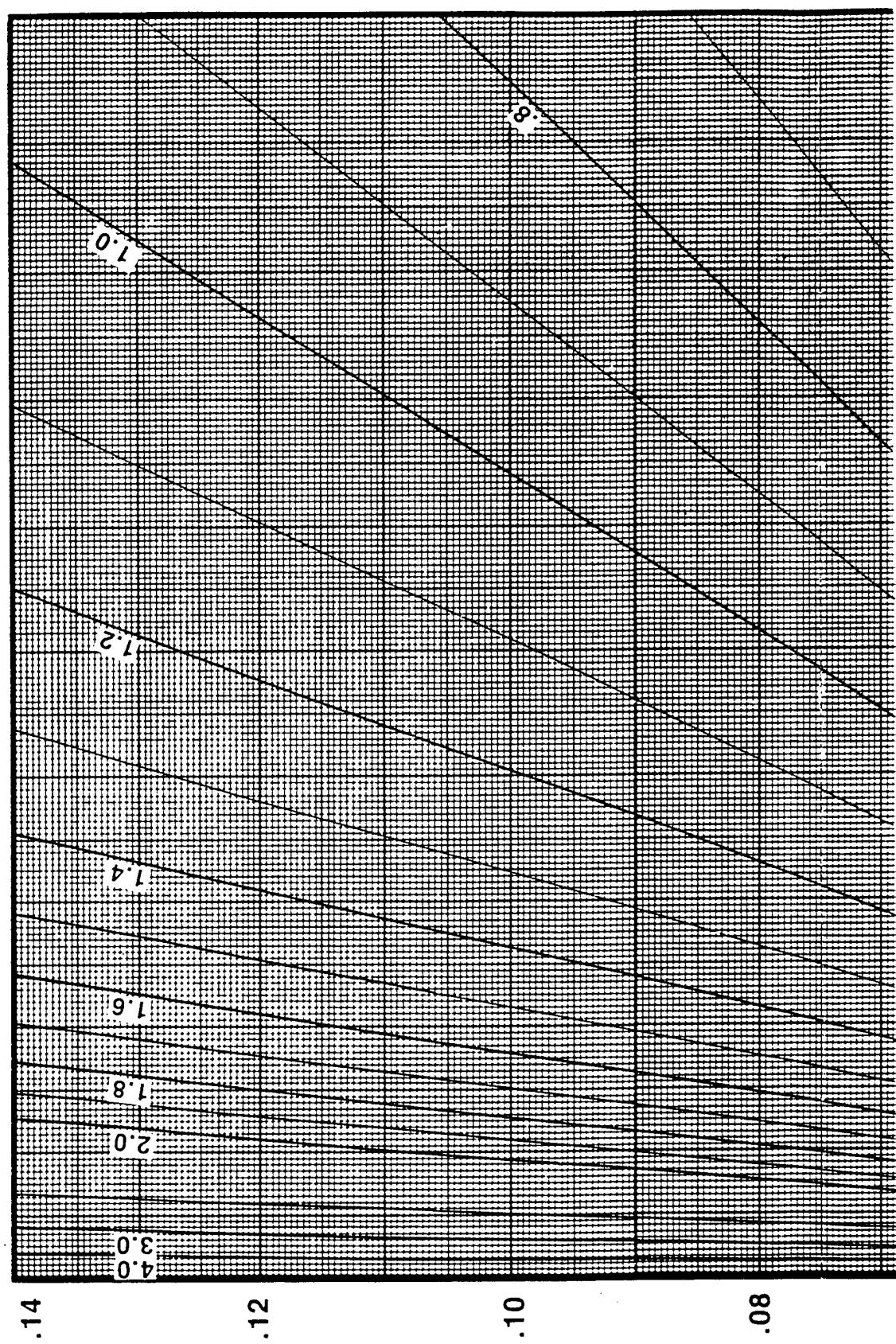
C-1-18



2
C-1-19

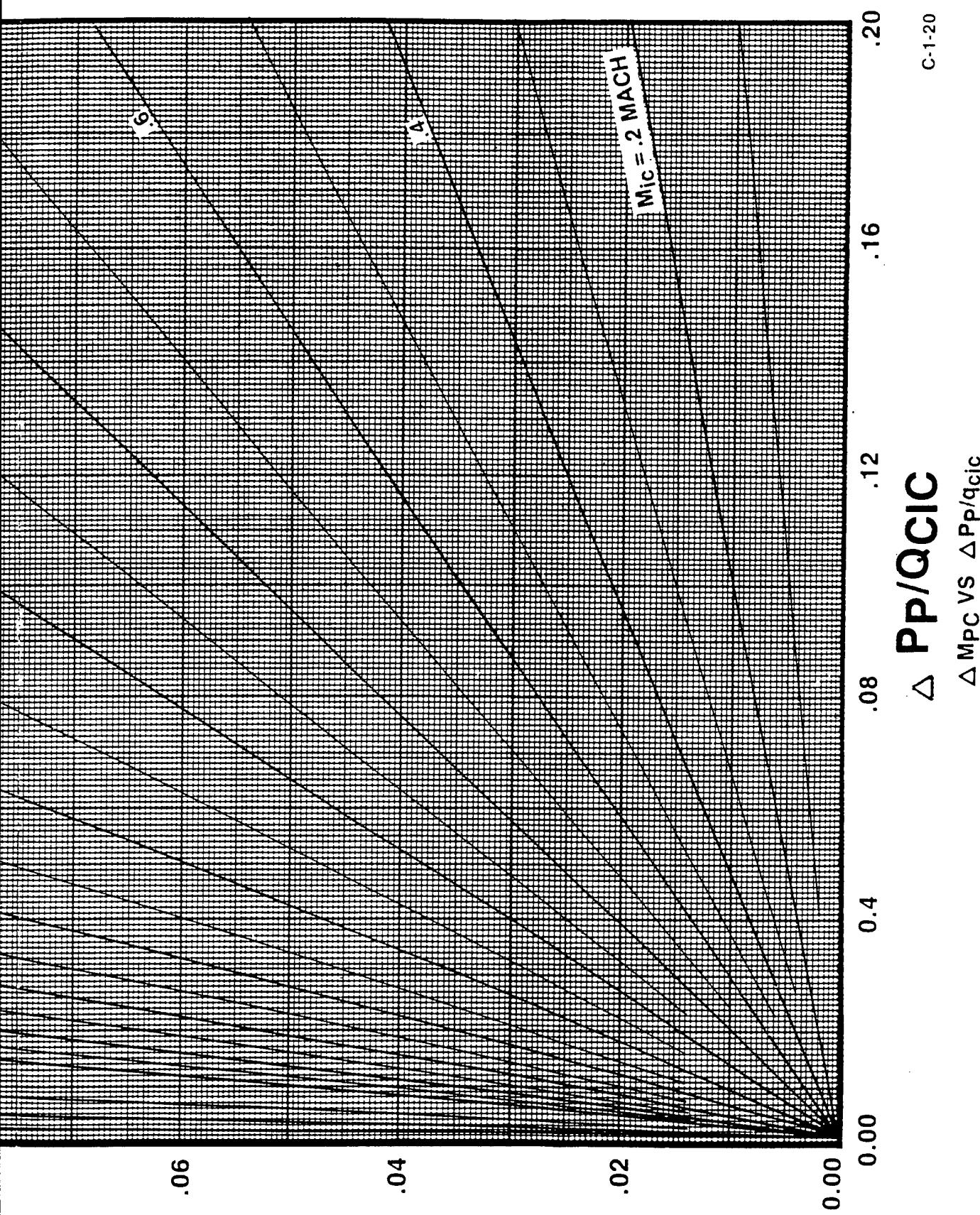
ΔV_{PC} VS V_{IC} @ $\frac{\Delta P_P}{q_{cic}} = \text{CONST}$





1ACH NO.)

ΔM_{PC} (MACH)



$\Delta \text{PP}/\text{QCIC}$

ΔM_{PC} VS $\Delta \text{PP}/\text{qcic}$

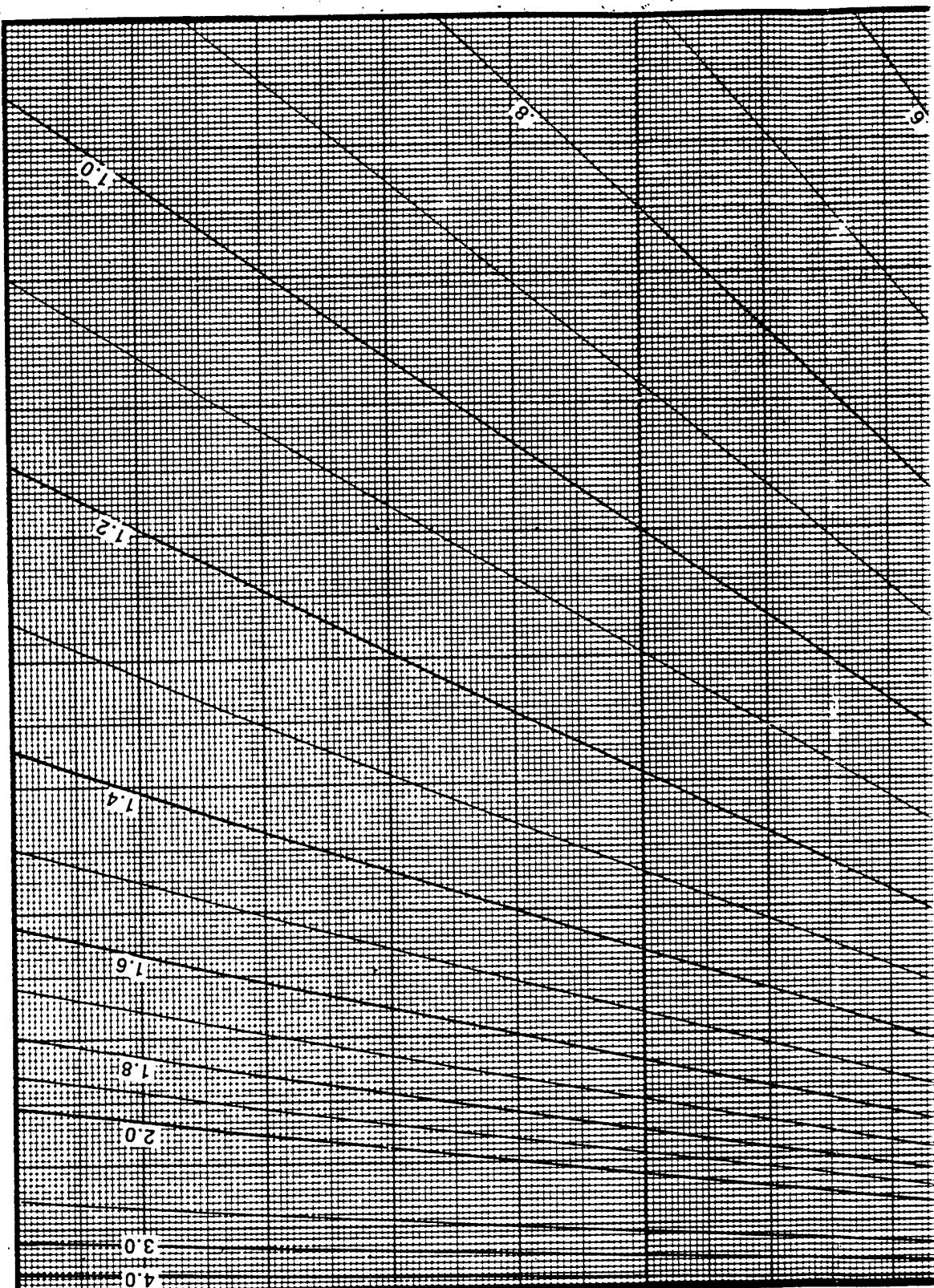
MACH NO.)

.08

-.10

-.12

-.14



(1)

ΔM_{PC} (MACH)

-.06

-.04

-.02

0.00

.20
.16
.12
.08
.04

$\Delta P_P/Q_{CIC}$

$-\Delta M_{PC}VS - \Delta P_P/q_{cic}$

C-1-21

$M_{IC} = .2$ MACH

(2)